Installation and Operating Manual

Keyboard for Fastrax Dome Video Cameras

EDC-KBDM3

eneo®

Contents

Safety Instructions

- Read these safety instructions and the operation manual first before you install and commission the unit.

- Keep the manual in a safe place for later reference.

- Protect your unit from contamination with water and humidity to prevent it from permanent damage. Never switch the unit on when it gets wet. Have it checked at an authorized service center in this case.

- Never operate the units outside of the specifications as this may prevent their functioning.

- Do not operate the unit beyond their specified temperature, humidity or power ratings. Operate the unit only at a temperature range of 0°C to +50°C and at a humidity of max. 90%.

- To disconnect the power cord of the unit, pull it out by the plug. Never pull the cord itself.

- Pay attention when laying the connection cable and observe that the cable is not subject to heavy loads, kinks, or damage and no moisture can get in. Do not attempt to disassemble the camera board from the dome.

- The warranty becomes void if repairs are undertaken by unauthorized persons. Do not open the camera housing.

- Maintenance and repair have to be carried out only by authorized service centers.

- Do not use strong or abrasive detergents when cleaning the dome. Use a dry cloth to clean the dome surface. In case the dirt is hard to remove, use a mild detergent and wipe gently.

NOTE: **This is a class A digital device. This digital device can cause harmful interference in a residential area; in this case the user may be required to take appropriate corrective action at his/her own expense.**

1. Introduction

1.1 Features

The Fastrax ll E keyboard controller is capable of controlling Fastrax II (E) dome cameras and providing remote control functions for a variety of external switching devices such as Multiplexers, Digital Video Recorders etc...

A combination of 4 Keyboard controllers and 5 Multiplexers comprises a small matrix system (64x4) using its remote control functions and programmable macro functions.

- 5 inch (320x240 dot pitch) TFT LCD monitor
- Variable speed control joystick with zoom controlling handle
- Program and recall programmed preset positions, auto scan, tour, pattern from the selected dome camera.
- 8 Sequences switch cameras to the specific spot monitors as programmed in the KBD controller menu
- Two levels of password are supported for higher security, administrator and user.
- Up to 254 dome cameras controllable including 64 dome cameras with Alarm mode
- Multiplexers (Max 255) and DVR system (Max 99) can be controlled remotely at each KBD controller regardless Master or Slave.
- Using 3~5 multiplexers and 4 Keyboard controllers, 32~64x4 matrix system can be configured.
- Up to 3 slave (remote) keyboard controllers can be connected to Master(main) keyboard controller.
- Battery backed-up clock displays real time on the LCD screen.
- Weekly and annual schedule of all program functions
- Up to two dome cameras' programmed data can be downloaded to nonvolatile memory space, and later uploaded to the new dome camera.
- Up to 8 sequence group with 64 cameras programming function

up to 8 alarm inputs (Sensor)

up to 4 alarm outputs (Siren)

(Flashing light)

up to 254 cameras

up to 255 Multiplexer

up to 99 DVR

J-box

J-box

J-box

J-box

Master Keyboard

Slave Keyboard #1

Slave Keyboard #2

Slave Keyboard #3
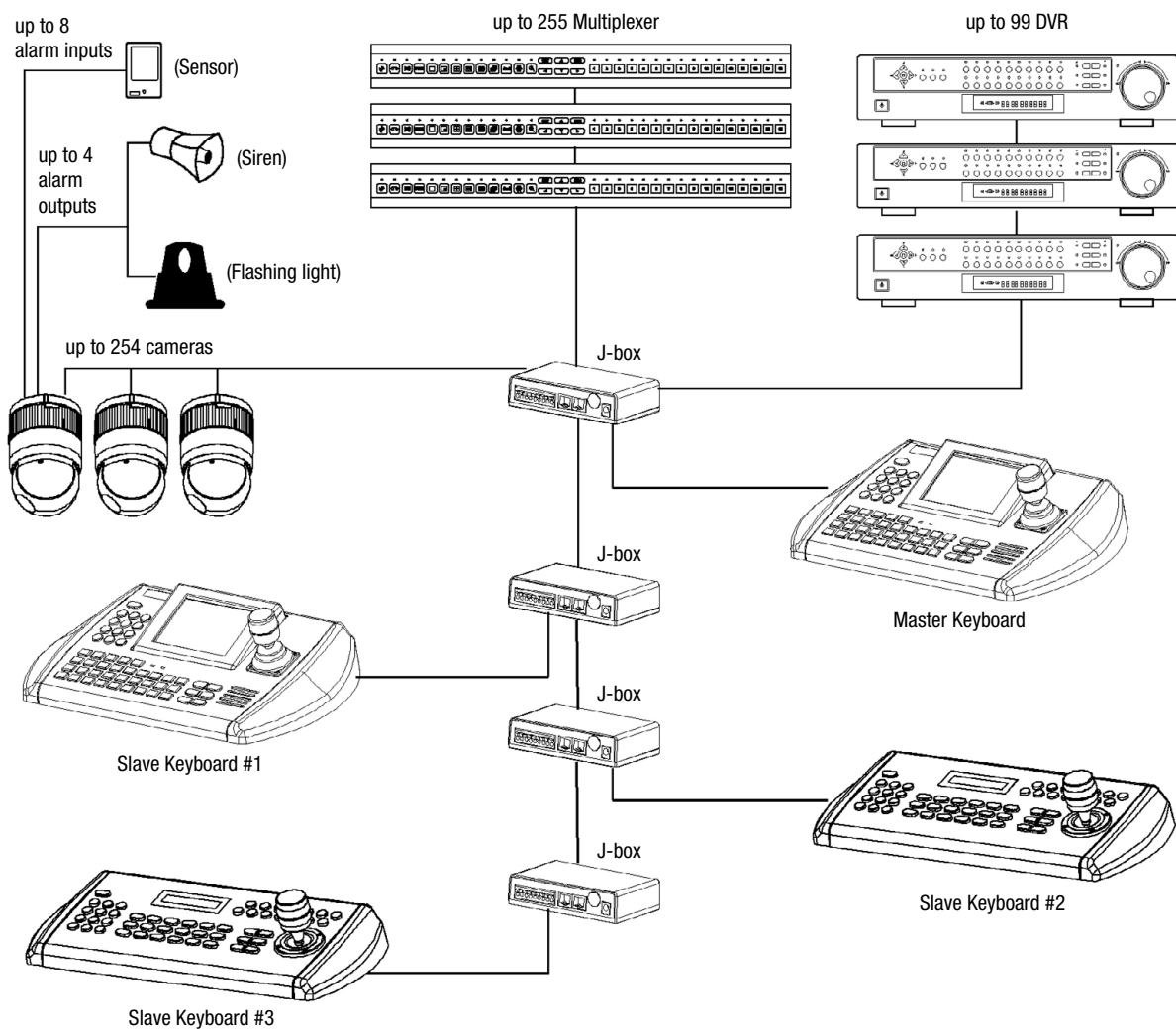
Figure 1: Typical System Configuration

2. Installation and Configuration

2.1 Package Contents

The package contains the following:

1x Keyboard controller
1x Junction box (J-box)
1x 3m 8 pin cable (Shielded cable for video signal)
1x 3m 8 pin cable (Unshielded cable)
4x M4 x L10 Self tapping screws
1x Instruction manual
1x 12VDC Power supply
1x Power Cord
1x 9 pin cable (RS-232)

2.2 Required Installation Tools

No special tools are required to install the KBD controller. Refer to the installation manuals for the other items that make up part of your system.

2.3 Basic Configuration of Fastrax II E Dome System

	J-Box	Dome
RS-485(+)	DOME 1 +	RX+ (TX+)
RS-485(-)	DOME 1 -	RX- (RX-)

Power 24VAC

STP AWG #22

Sensor

Alarm input
up to 8

Siren

Light

Alarm output
up to 4

BNC

Monitor

BNC

Alarm output 1-2   Alarm input 1-4

NO2 NC2 COM2 NO1 NC1 COM GND AL4 AL3 GND AL2 AL1

AC
AC
FGND
(RX+)
(RX-)
RX+(TX+)
RX-(TX-)
GND
AC
AC

Power 24VAC

Dome 1 +

Dome 1 –

RS-485
(RX+)
(RX-)
RX+(TX+)
RX-(TX-)

NO4 NC4 COM4 NO3 NC3 COM3 GND AL8 AL7 GND AL6 AL5

Alarm output 3-4   Alarm input 5-8

RS-485
Half Duplex Mode: RX+, RX-

RS-422
Simplex Mode: (RX+), (RX-)
Duplex Mode: (TX+), (TX-), (RX+), (RX-)

J-box (Back)

DOME1 DOME2 SLAVE KBD   DATA2   DATA1   DC 12V

VIDEO IN

J-box (Front)

MUX   ALARM/PC   DVR

RS-232C

DATA1   DATA2

Rear

Keyboard controller

Figure 2: Basic installation diagram

2.4 RS-485 End of Line Termination

The first and last devices in an installation must have the data line terminated by setting the DIP switch. Without proper termination, there is potential for control signal errors. Total length of the cable for communication should not exceed 1.2km.

Figure 3: Termination diagram

2.5 Dip Switch Setting

Termination and Master/Slave: Set the switches according to your configuration.
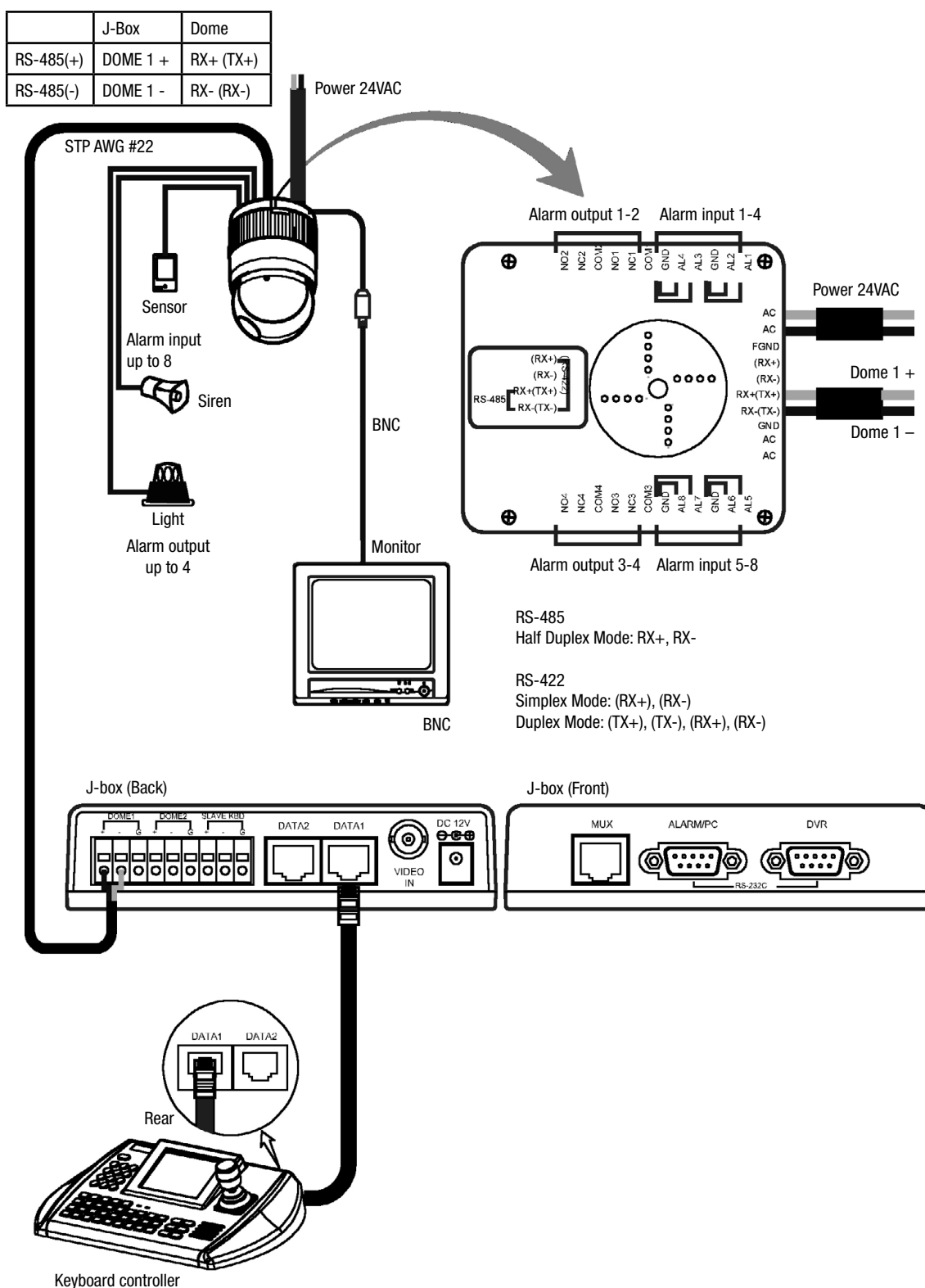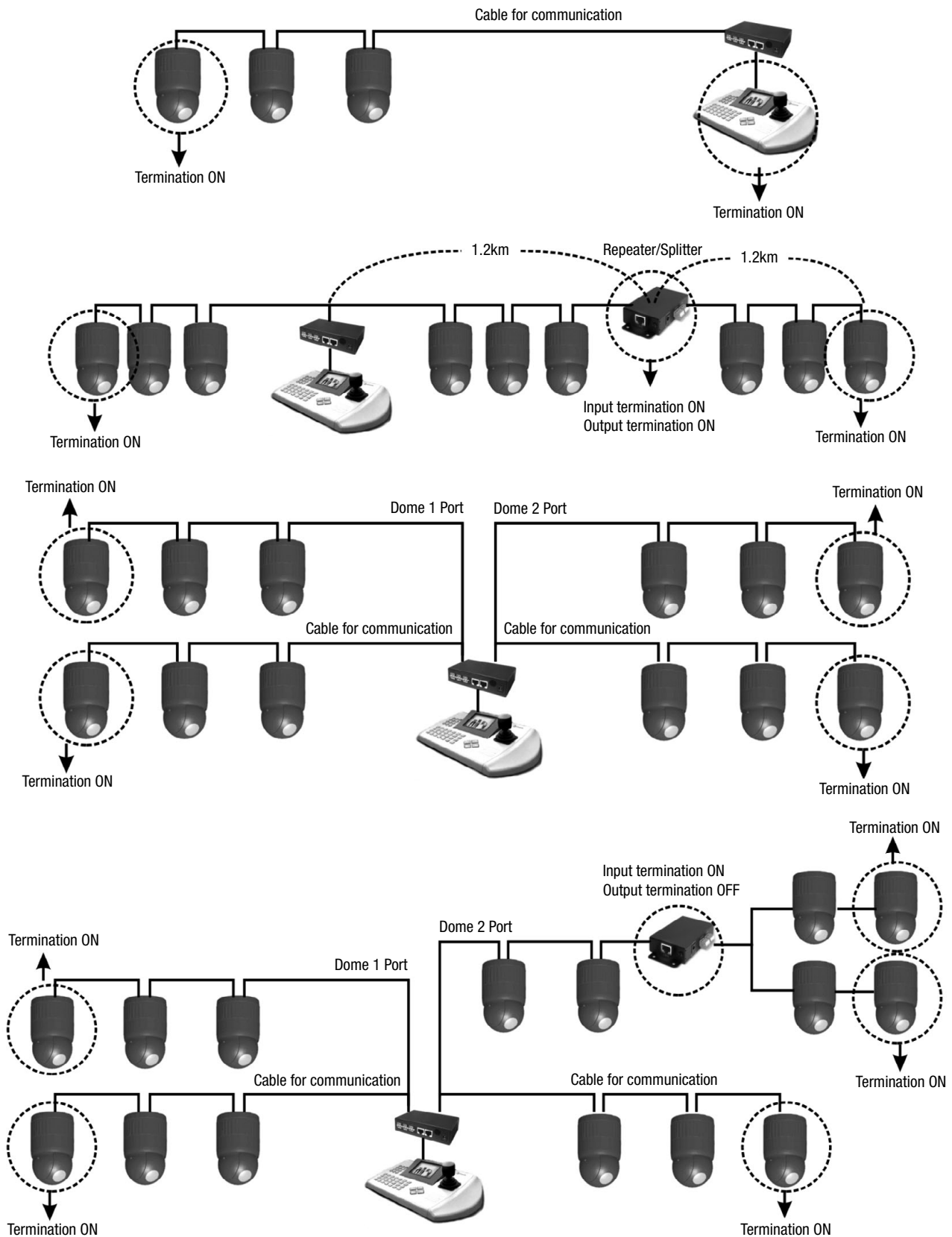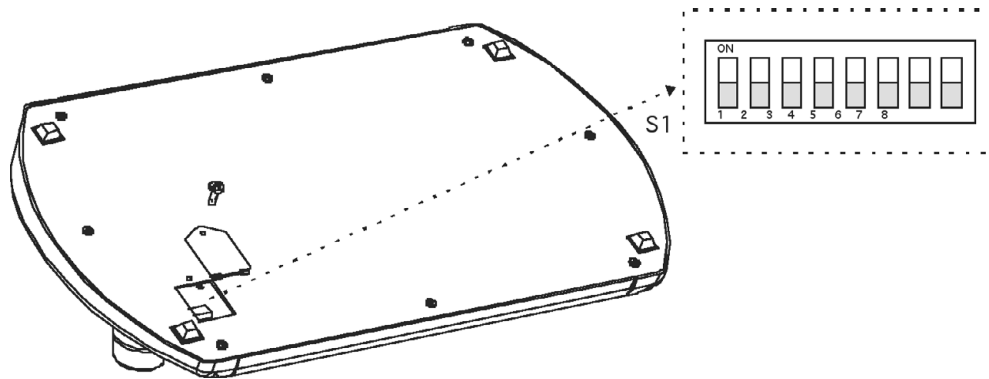

Figure 4: DIP switches setting

NO.	SETTING	DESCRIPTION
1	On	DOME1 Port Termination
	Off	
2	On	Mux/Slave Termination
	Off	
3	On	DOME2 Port Termination
	Off	
4~6	–	(Reserved)
7	On	Slave
	Off	Master
8	On	PAL
	Off	NTSC

2.6 Quick Installation Procedure

The dome camera must be installed by qualified service personnel in accordance with all local and federal electrical and building codes.

1. Fasten the J-box to a rigid wall using the supplied screws.
2. Connect the control signal wires between the dome and J-Box.
3. Connect the 12VDC power to the J-box.
4. Connect the supplied shielded 8 pin cable between the data1 port of the KBD and the data1 port of J-box. When you connect the dome camera to the data2 port of J-Box, you should connect unshielded 8 pin cable between the data2 port of the KBD and the data2 port of J-box.
5. Connect the BNC cable from the Aux of appropriate switching device to J-box if needed.
6. Turn on the KBD power after all dome cameras have initialized.
7. The keyboard controller will search for all the attached dome cameras and then show the ID of dome cameras found.
8. The user will be prompted for a password for authorization. The user must enter a 4-digit PIN code. There are two authorization levels: operation only and programming. The factory default passwords are 1111 for user, 9999 for administrator.
9. Move the joystick to control the camera direction (Pan, Tilt), and rotate the handle to the counterclockwise/ clockwise for zoom Out/In.
Depending on the amount of rotation or deflection of the joystick, zoom and pan/tilt speed will be change.

2.7 Getting Started

Once installed apply power to the KBD controller. The KBD controller will start a scanning the connected device according to configuration.
When scanning is going and done, the following information is displayed on the keyboard controller's LCD
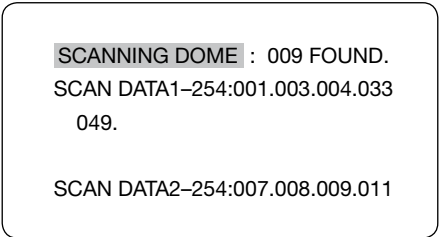
```
┌─────────────────────────────────────┐
│                                     │
│   SCANNING DOME  :  009 FOUND.      │
│   SCAN DATA1–254:001.003.004.033    │
│     049.                            │
│                                     │
│   SCAN DATA2–254:007.008.009.011    │
│                                     │
└─────────────────────────────────────┘
```
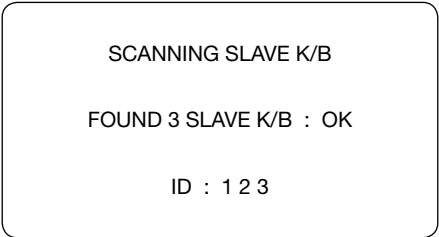
Scanning dome Screen

```
┌─────────────────────────────────────┐
│                                     │
│        SCANNING SLAVE K/B           │
│                                     │
│      FOUND 3 SLAVE K/B  :  OK       │
│                                     │
│          ID  :  1 2 3               │
│                                     │
└─────────────────────────────────────┘
```

Scanning Slave K/B Screen
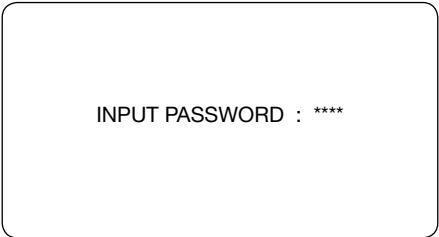
```
┌─────────────────────────────────────┐
│                                     │
│                                     │
│                                     │
│      INPUT PASSWORD  :  ****        │
│                                     │
│                                     │
│                                     │
└─────────────────────────────────────┘
```

Input Password Screen
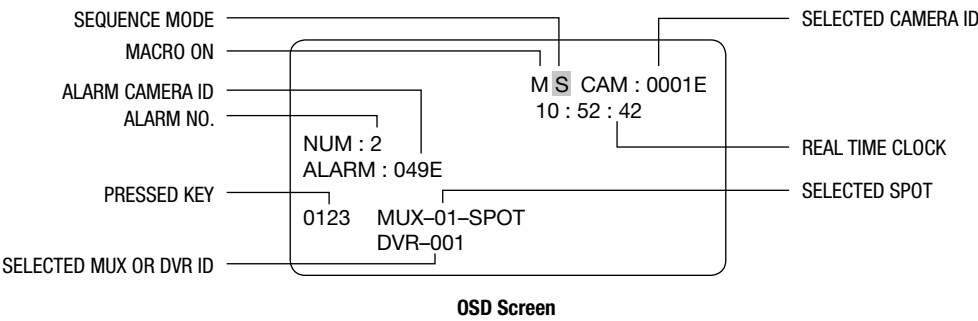
OSD Screen

8

2.8 Recommended Installation Examples

1. Single user system with a MUX and Multiple dome cameras

	J-Box	Dome
RS-485(+)	DOME 1 +	RX+ (TX+)
RS-485(-)	DOME 1 -	RX- (RX-)

RS-485 Dome control cable

Termination ON

	J-Box		Mux	
RS-485(+)	Slave KBD+	or	Mux Pin 6	RS-485 IN Pin 6
RS-485(-)	Slave KBD–		Mux Pin 4	RS-485 IN Pin 4

Remote control cable for MUX

Video cable   OFF   ON

Spot Monitor

Main Monitor

Termination ON
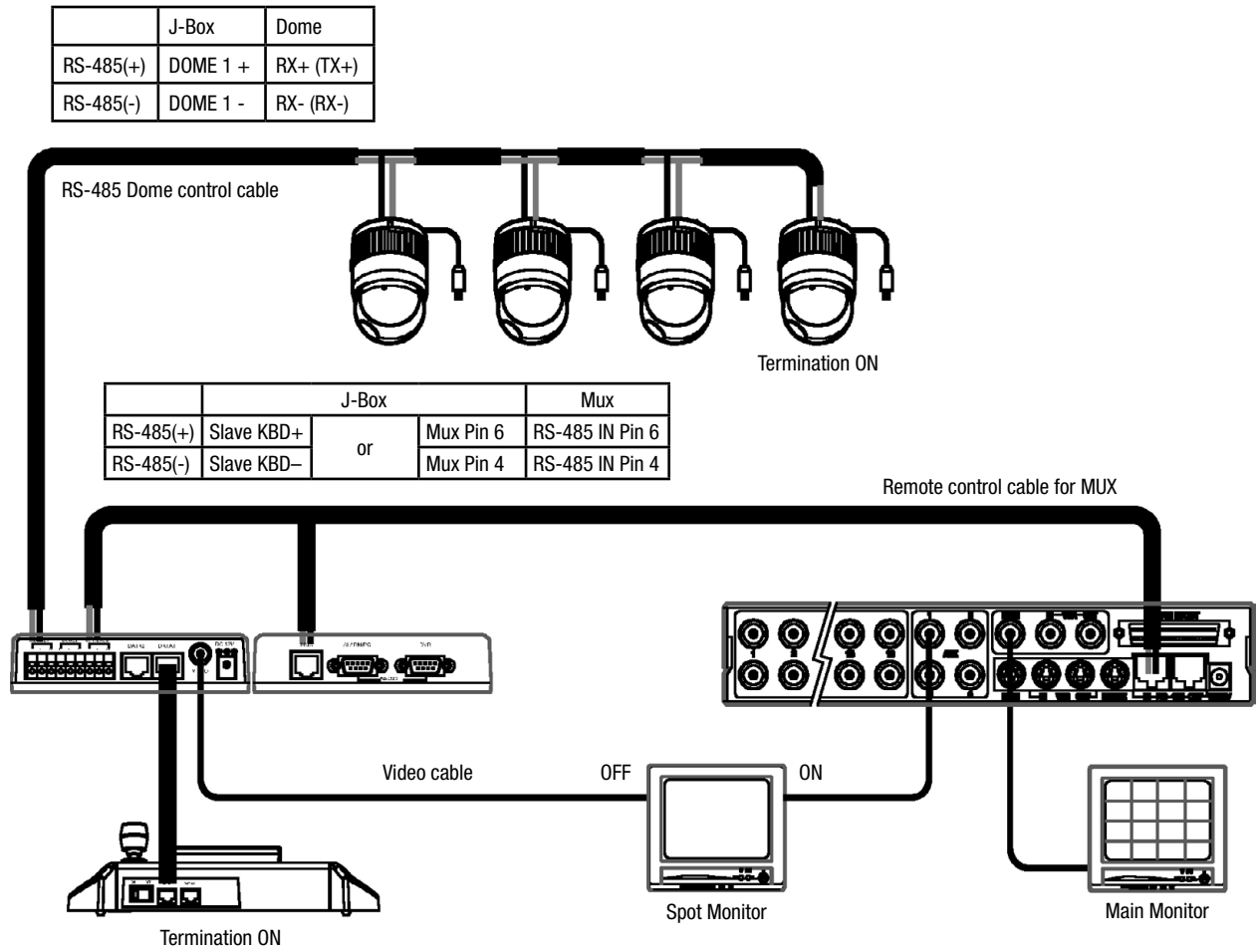
Figure 5: Single user & Mux installation

2. Single user system with two Multiplexers (31 cameras max)

	J-Box	Dome
RS-485(+)	DOME 1 +	RX+ (TX+)
RS-485(-)	DOME 1 -	RX- (RX-)

RS-485 Dome control cable
(max. 1.2km)

Termination ON

	J-Box		Mux	
RS-485(+)	Slave KBD+	or	Mux Pin 6	RS-485 IN Pin 6
RS-485(-)	Slave KBD–		Mux Pin 4	RS-485 IN Pin 4

Remote control cable for MUX

Main Monitor

4: RS-485(–)
6: RS-485(+)

Mux 1

Mux 2

Video cable

OFF   ON

Termination ON
Master KBD controller

Spot Monitor

Main Monitor
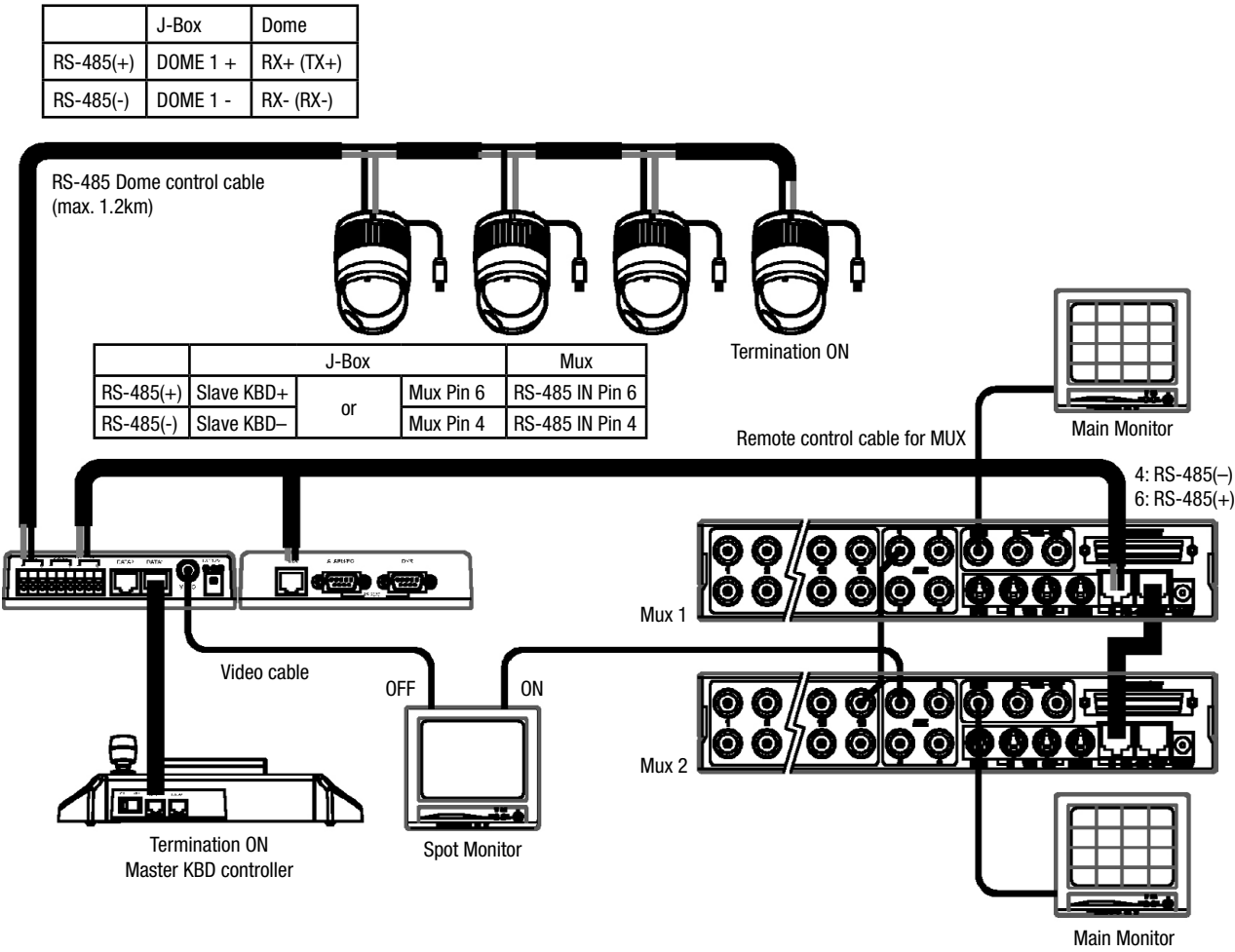
Figure 6: Single user & two Muxs installation

3. Multi user system with two Mux configuration

	J-Box	Dome
RS-485(+)	DOME 1 +	RX+ (TX+)
RS-485(-)	DOME 1 -	RX- (RX-)

RS-485 Dome control cable
(max. 1.2km)

up to 128 Dome cameras
including 32 Dome cameras
with alarm mode

Termination ON

	J-Box	Dome
RS-485(+)	DOME 2+	RX+ (TX+)
RS-485(-)	DOME 2-	RX- (RX-)

up to 128 Dome cameras
including 32 Dome cameras
with alarm mode

Termination ON

	J-Box		Mux	
RS-485(+)	Slave KBD+	or	Mux Pin 6	RS-485 IN Pin 6
RS-485(-)	Slave KBD–		Mux Pin 4	RS-485 IN Pin 4

Remote control cable for MUX

4: RS-485(–)
6: RS-485(+)

Spot #1

Termination ON
Master KBD controller

Mux 1

Spot #2

Termination ON
#1 Slave KBD controller

Mux 2

Spot #3

#2 Slave KBD controller

Spot #4

Aux 1	⇒	Master KBD
Aux 2	⇒	Slave #1
Aux 3	⇒	Slave #2
Aux 4	⇒	Slave #3

#3 Slave KBD controller

Figure 7: Multi user & two Muxs installation

4. Multi user system with Multiple Mux configuration

RS-485 Dome control cable (max. 1.2km)

	J-Box	Dome
RS-485(+)	DOME 1 +	RX+ (TX+)
RS-485(-)	DOME 1 -	RX- (RX-)

up to 128 Dome cameras
including 32 Dome cameras
with alarm mode

Termination ON

	J-Box	Dome
RS-485(+)	DOME 2+	RX+ (TX+)
RS-485(-)	DOME 2-	RX- (RX-)

up to 128 Dome cameras
including 32 Dome cameras
with alarm mode

Termination ON

	J-Box		Mux	
RS-485(+)	Slave KBD+	or	Mux Pin 6	RS-485 IN Pin 6
RS-485(-)	Slave KBD–		Mux Pin 4	RS-485 IN Pin 4

Remote control cable for MUX

4: RS-485(–)
6: RS-485(+)

Mux 1

Spot #1

Termination ON
Master KBD controller

Mux 2

Spot #2

Termination ON
#1 Slave KBD controller

Mux 3

Spot #3

#2 Slave KBD controller

Mux 4

Spot #4

#3 Slave KBD controller

Aux 1	⇒	Master KBD
Aux 2	⇒	Slave #1
Aux 3	⇒	Slave #2
Aux 4	⇒	Slave #3

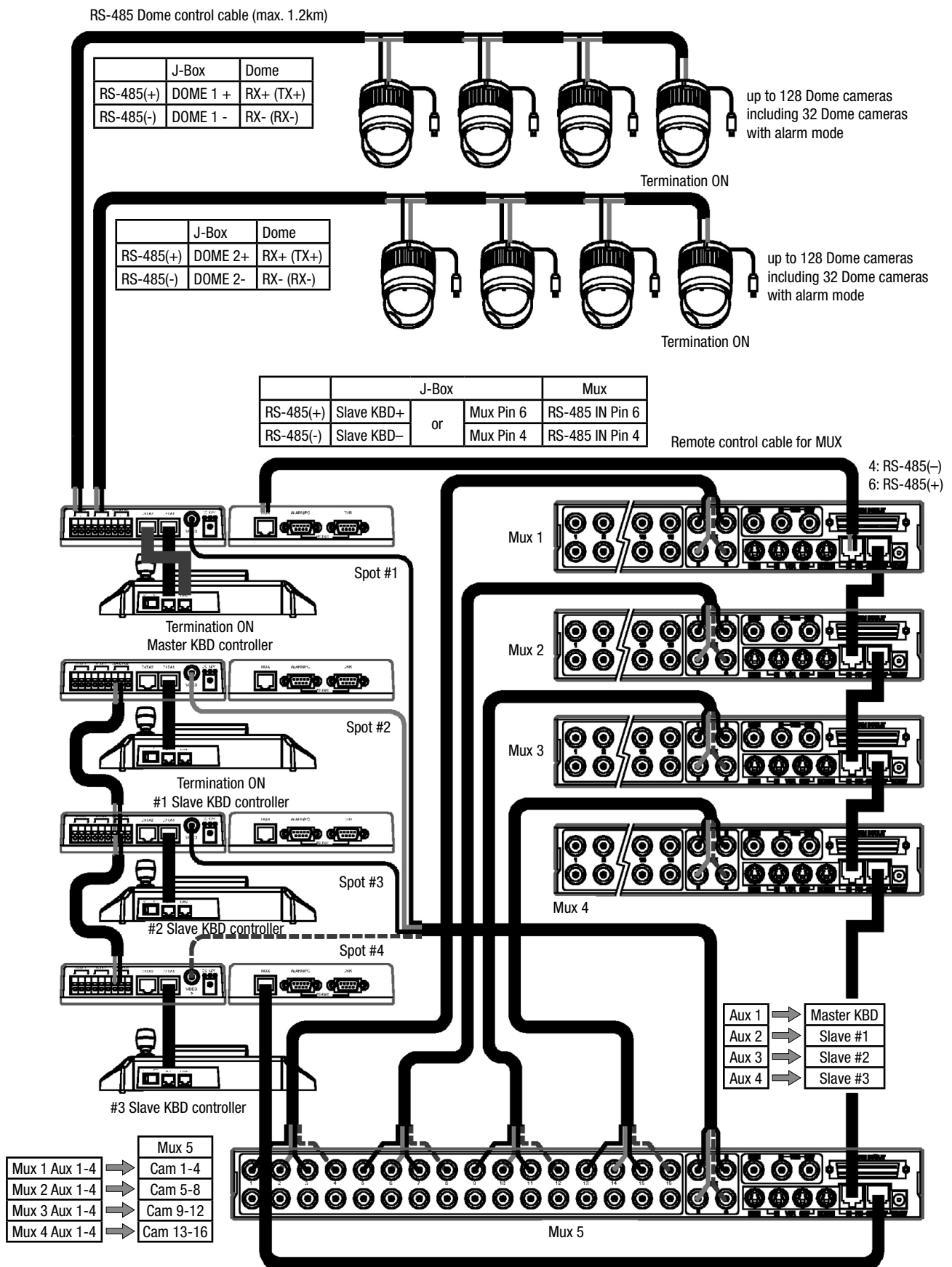| Mux 5	
Mux 1 Aux 1-4 ⇒	Cam 1-4
Mux 2 Aux 1-4 ⇒	Cam 5-8
Mux 3 Aux 1-4 ⇒	Cam 9-12
Mux 4 Aux 1-4 ⇒	Cam 13-16

Mux 5

Figure 8: Multi user & multi Muxs installation

2.9 Multiplexer Configuration Examples

Press **CTRL + MENU** to call the Main menu

Go into MAIN MENU —> NETWORK —> MUX CONFIGURATIONS

After setting up Cam 001 Press the **ON** Key to fill the rest of the camera fields automatically.

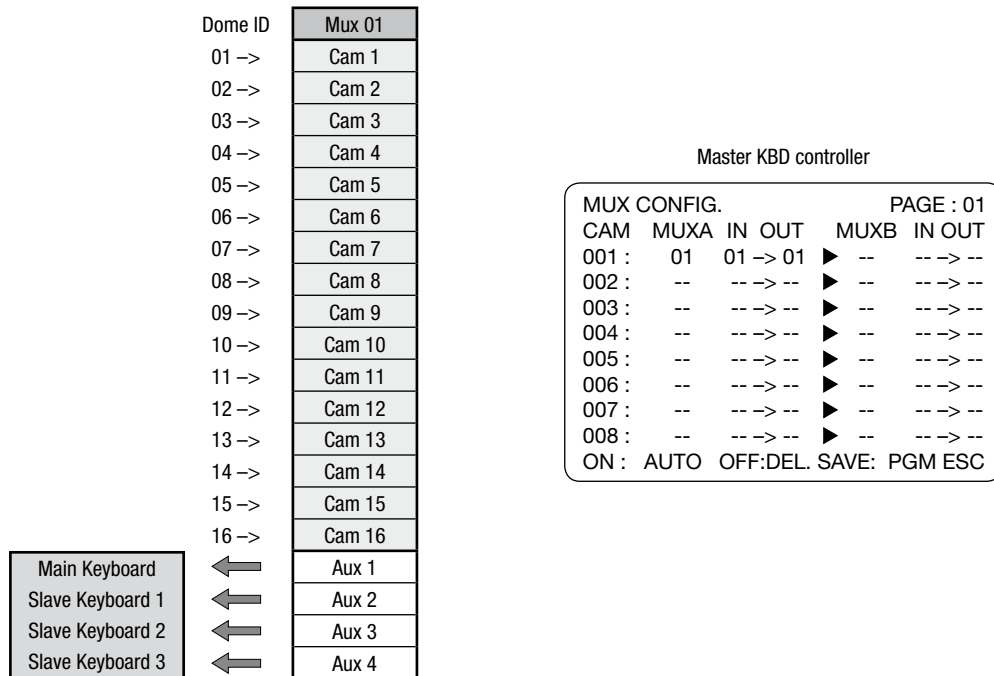**Example 1: Multi/Single user system with 16 Cameras and one Multiplexer**

Dome ID	Mux 01
01 —>	Cam 1
02 —>	Cam 2
03 —>	Cam 3
04 —>	Cam 4
05 —>	Cam 5
06 —>	Cam 6
07 —>	Cam 7
08 —>	Cam 8
09 —>	Cam 9
10 —>	Cam 10
11 —>	Cam 11
12 —>	Cam 12
13 —>	Cam 13
14 —>	Cam 14
15 —>	Cam 15
16 —>	Cam 16
Main Keyboard ⇐	Aux 1
Slave Keyboard 1 ⇐	Aux 2
Slave Keyboard 2 ⇐	Aux 3
Slave Keyboard 3 ⇐	Aux 4

Master KBD controller

```
MUX CONFIG.                        PAGE : 01
CAM   MUXA  IN  OUT     MUXB  IN OUT
001 :   01   01 –> 01  ▶  --    -- –> --
002 :   --   -- –> --  ▶  --    -- –> --
003 :   --   -- –> --  ▶  --    -- –> --
004 :   --   -- –> --  ▶  --    -- –> --
005 :   --   -- –> --  ▶  --    -- –> --
006 :   --   -- –> --  ▶  --    -- –> --
007 :   --   -- –> --  ▶  --    -- –> --
008 :   --   -- –> --  ▶  --    -- –> --
ON :  AUTO   OFF:DEL. SAVE:  PGM ESC
```

Figure 9: One Mux configuration

By pressing **No. + CAM**, the video of the selected camera is automatically switched to the specific keyboard controller's monitor.

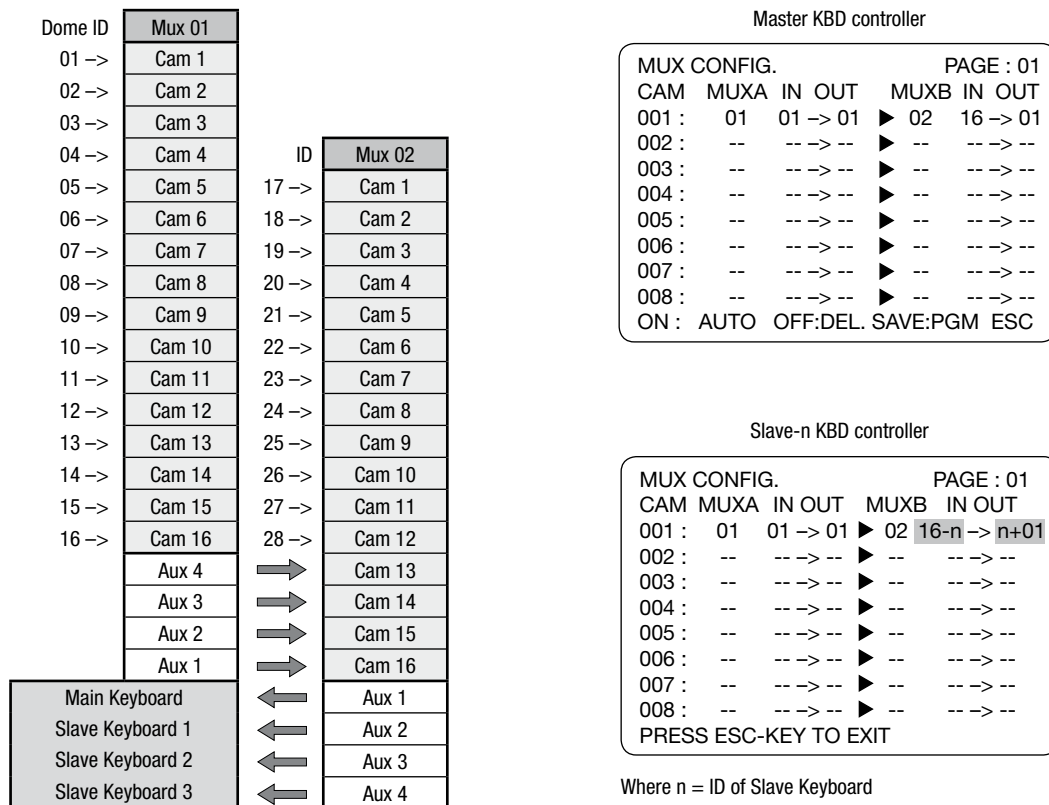**Example 2: Multi/Single user system with 28~31 Cameras and two Multiplexers**

Dome ID	Mux 01
01 –>	Cam 1
02 –>	Cam 2
03 –>	Cam 3
04 –>	Cam 4
05 –>	Cam 5
06 –>	Cam 6
07 –>	Cam 7
08 –>	Cam 8
09 –>	Cam 9
10 –>	Cam 10
11 –>	Cam 11
12 –>	Cam 12
13 –>	Cam 13
14 –>	Cam 14
15 –>	Cam 15
16 –>	Cam 16
	Aux 4
	Aux 3
	Aux 2
	Aux 1

	Main Keyboard
	Slave Keyboard 1
	Slave Keyboard 2
	Slave Keyboard 3

ID	Mux 02
17 –>	Cam 1
18 –>	Cam 2
19 –>	Cam 3
20 –>	Cam 4
21 –>	Cam 5
22 –>	Cam 6
23 –>	Cam 7
24 –>	Cam 8
25 –>	Cam 9
26 –>	Cam 10
27 –>	Cam 11
28 –>	Cam 12
	Cam 13
	Cam 14
	Cam 15
	Cam 16
	Aux 1
	Aux 2
	Aux 3
	Aux 4

Master KBD controller

```
MUX CONFIG.                    PAGE : 01
CAM   MUXA  IN  OUT    MUXB  IN  OUT
001 :  01   01 –> 01  ▶  02   16 –> 01
002 :  --   -- –> --  ▶  --   -- –> --
003 :  --   -- –> --  ▶  --   -- –> --
004 :  --   -- –> --  ▶  --   -- –> --
005 :  --   -- –> --  ▶  --   -- –> --
006 :  --   -- –> --  ▶  --   -- –> --
007 :  --   -- –> --  ▶  --   -- –> --
008 :  --   -- –> --  ▶  --   -- –> --
ON :  AUTO  OFF:DEL. SAVE:PGM  ESC
```

Slave-n KBD controller

```
MUX CONFIG.                    PAGE : 01
CAM  MUXA  IN OUT   MUXB   IN OUT
001 :  01  01 –> 01 ▶ 02  16-n –> n+01
002 :  --  -- –> -- ▶ --   -- –> --
003 :  --  -- –> -- ▶ --   -- –> --
004 :  --  -- –> -- ▶ --   -- –> --
005 :  --  -- –> -- ▶ --   -- –> --
006 :  --  -- –> -- ▶ --   -- –> --
007 :  --  -- –> -- ▶ --   -- –> --
008 :  --  -- –> -- ▶ --   -- –> --
PRESS ESC-KEY TO EXIT
```

Where n = ID of Slave Keyboard

Figure 10: Two Muxs configuration

Picture of selected camera by pressing **No. + CAM** is automatically switched to specific user (One of 4 users) monitor. Max No. of camera inputs depends on No. of Keyboards (No. of user). Maximum of 31 cameras can be attached for single user configuration. In the case of a four user (Main, 3 Slave Keyboard) system, 28 cameras can be attached to a system.

Camera selection is done by pressing **1, 2, 3, ...17, 18.... 27, 28, (29, 30, 31 + CAM**

ID of First MUX is 01 and ID of second is 02. Changing the screen format of each Mux is possible after selecting the MUX to be controlled by pressing **1** or **2 + MUX**.

Alternatively after 1~16 camera selection, ID 01 Mux is in control. After 17~31 camera selection, ID 02 Mux can be controlled by the user.

If the user wants to connect all 32 cameras, configure Spot(AUX) auto switching methods that will be the same as single Mux system. See example 1.

But first group of 16 cameras goes to Spot (AUX) of first Mux. And second group of 16 cameras goes to Spot (AUX) of second Mux. That is, Spot (AUX) monitor is not inter changeable. Yet, camera ID should be continuous **No. 1, 2, ... 32** and camera selection is done by pressing **1 ~ 32 + CAM**.

Example 3: Multi/Single user System with 48 Cameras and 4 Multiplexers

Figure 11-Four Muxs configuration

Master KBD controller

CAM	MUXA	IN OUT		MUXB	IN OUT
MUX CONFIG.					PAGE : 01
001 :	01	01 –> 01	▶	04	01 –> 01
002 :	--	-- –> --	▶	--	-- –> --
003 :	--	-- –> --	▶	--	-- –> --
004 :	--	-- –> --	▶	--	-- –> --
005 :	--	-- –> --	▶	--	-- –> --
006 :	--	-- –> --	▶	--	-- –> --
007 :	--	-- –> --	▶	--	-- –> --
008 :	--	-- –> --	▶	--	-- –> --
ON :	AUTO	OFF:DEL.	SAVE:PGM	ESC	

Slave-n controller

CAM	MUXA	IN OUT		MUXB	IN OUT
MUX CONFIG.					PAGE : 01
001 :	01	01 –>n+1	▶	04	n+1 –> n+1
002 :	--	-- –> --	▶	--	-- –> --
003 :	--	-- –> --	▶	--	-- –> --
004 :	--	-- –> --	▶	--	-- –> --
005 :	--	-- –> --	▶	--	-- –> --
006 :	--	-- –> --	▶	--	-- –> --
007 :	--	-- –> --	▶	--	-- –> --
008 :	--	-- –> --	▶	--	-- –> --
PRESS ESC-KEY TO EXIT					

Where n = ID of Slave Keyboard

Picture of selected camera by pressing **No. + CAM** is automatically switched to specific user (One of 4 users) monitor. Up to 48 cameras can be attached in this configuration regardless the number of users.

Camera selection is done by pressing **1, 2, 3...17, 18... + CAM**

ID of First Mux is 01 and second one is 02, 3rd is 03. ID of last Mux is always 04. Changing the screen format of each Mux is possible after selecting the Mux to be controlled by pressing **1,2** or **3 + MUX**.

Or ID of active Mux is selected implicitly after selection of Nth group of 16 cameras.

Example 4: Multi/Single User system with 64 Cameras and 5 Multiplexers

Dome ID mappings (Mux 01): Cam 1 <– 1, Cam 2 <– 2, Cam 3 <– 3, Cam 4 <– 4, Cam 5 <– 5, Cam 6 <– 6, Cam 7 <– 7, Cam 8 <– 8, Cam 9 <– 9, Cam 10 <– 10, Cam 11 <– 11, Cam 12 <– 12, Cam 13 <– 13, Cam 14 <– 14, Cam 15 <– 15, Cam 16 <– 16

Mux 02 — Dome ID: 17 ->, 18 ->, 19 -> (Cam 1, Cam 2, Cam 3 ...)

Mux 03 — Dome ID: 33 ->, 34 ->, 35 -> (Cam 1, Cam 2, Cam 3 ...)

Mux 04 — Dome ID: 49 -> Cam 1, 50 -> Cam 2, 51 -> Cam 3, 52 -> Cam 4, 53 -> Cam 5, 54 -> Cam 6, 55 -> Cam 7, 56 -> Cam 8, 57 -> Cam 9, 58 -> Cam 10, 59 -> Cam 11, 60 -> Cam 12, 61 -> Cam 13, 62 -> Cam 14, 63 -> Cam 15, 64 -> Cam 16

Mux 04 (right): Cam 1 ... Cam 16, Aux 1, Aux 2, Aux 3, Aux 4

Main Keyboard, Slave Keyboard 1, Slave Keyboard 2, Slave Keyboard 3

Master KBD controller

CAM	MUXA	IN OUT		MUXB	IN OUT
MUX CONFIG.					PAGE : 01
001 :	01	01 –> 01	▶	04	01 –> 01
002 :	--	-- –> --	▶	--	-- –> --
003 :	--	-- –> --	▶	--	-- –> --
004 :	--	-- –> --	▶	--	-- –> --
005 :	--	-- –> --	▶	--	-- –> --
006 :	--	-- –> --	▶	--	-- –> --
007 :	--	-- –> --	▶	--	-- –> --
008 :	--	-- –> --	▶	--	-- –> --
ON : AUTO OFF:DEL. SAVE:PGM ESC					

Slave-n controller

CAM	MUXA	IN OUT		MUXB	IN OUT
MUX CONFIG.					PAGE : 01
001 :	01	01 –> n+1	▶	05	4n+1 –> n+1
002 :	--	-- –> --	▶	--	-- –> --
003 :	--	-- –> --	▶	--	-- –> --
004 :	--	-- –> --	▶	--	-- –> --
005 :	--	-- –> --	▶	--	-- –> --
006 :	--	-- –> --	▶	--	-- –> --
007 :	--	-- –> --	▶	--	-- –> --
008 :	--	-- –> --	▶	--	-- –> --
PRESS ESC-KEY TO EXIT					

Where n = ID of Slave Keyboard

Figure 12: Five Muxs configuration

All operation methods are similar to example 3 configuration.

Regardless of number of users, Max. number of cameras is 64.

Out column of the table for MuxA (ID 01) is set master user = 01, Slave 1 = 02, Slave 1 = 03, Slave 3 = 04.
In column of the table for MuxB (ID 05) to be set as Master = 01, Slave 1 = 5, Slave 2 = 9, Slave 3 = 13.

Out column of the table for MuxB (ID 05) is set master user = 01, Slave 1 = 02, Slave 1 = 03, Slave 3 = 04.

2.10 Keyboard Configuration Menu Setup

The user needs to setup network, passwords and special functions such as uploading and downloading programmed data from the dome cameras.

Key operation example

CTRL + MENU	: Press and hold down the **CTRL** key and press **MENU** key.
1 + CAM	: Press **1**, **CAM** keys sequentially.
CTRL + Joystick	: Press and hold down the **CTRL** key while manipulate **Joystick** handle.

Special key action in the Menu

PGM key	: Press **PGM** key to save and exit to previous menu.
ESC key	: Press **ESC** key to exit current menu without saving.
ON key	: Press **ON** key when you need to insert or fill the data field.
OFF key	: Press **OFF** key to delete the data field.
Joystick	: Move **Joystick** upward/downward to select item in the menu.
	Move **Joystick** right/left to enter sub-menu or change the value.
	Twist the handle to select or increase/decrease the value.

MAIN MENU

Press **CTRL + MENU** to enter the KBD controller main menu. You will see the following menu:

```
              MAIN MENU
        CONFIGURATION
        NETWORK
        DATA BANK
        TIME/DATE
        ALARM
        SCHEDULE
        LCD
        EXIT
```
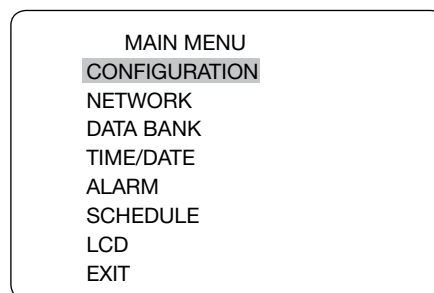
Main Menu Screen

Configuration	Enters the configuration setup submenu
Network	Enters the Network setup submenu to set baud rate, port, Mux & Slave KBD
Data Bank	Enters the Data bank submenu to upload or download the programmed data
Time/date	Enters the Time and Date setup submenu
Alarm	Enters Alarm setup submenu for the Alarm interface box
Schedule	Enters the Schedule setup submenu to set macro, weekly & annual schedule & sequence
LCD	Adjust Brightness, Contrast, Tint, and Color of the LCD
Exit	Exit from the Main Menu and return to the normal operation mode

CONFIGURATION MENU

```
                  CONFIGURATION
KEY BEEP                    : ON
BACKGROUND VIDEO            : OFF
VIDEO IN MENU               : ON
AUTO KEY-LOCK               : OFF
LCD POWER SAVE              : 05 MIN.
CHANGE USER PASSWORD
CHANGE ADMIN PASSWORD
RESCAN DOME

SAVE AND EXIT
```
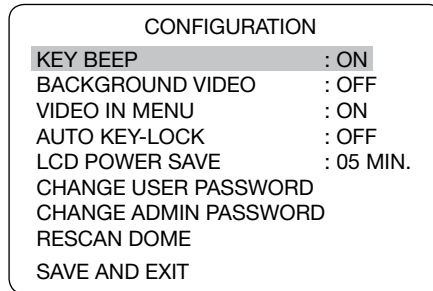
Configuration Setup Screen

Key Beep	When set to ON, the KBD controller's internal speaker will sound when you press key.
Background video	When set to OFF, the keyboard controller's LCD will hide the image
Video in menu	When set to OFF, the keyboard controller's LCD will hide the image for legibility when the menu is on screen.
Auto key-lock	When set to 1 ~ 60Min, the KBD controller log out for security after elapsed time. You can set time OFF to 60 minute.
LCD power save	When set to 1 ~ 60Min, the KBD controller's LCD power will be turned off after elapsed time. You can set time OFF to 60 minute.
Change user password	Enters the change user password submenu
Change admin password	Enters the change administrator password submenu
Rescan Dome	Rescan the connected dome cameras
Save and Exit	Save the changed settings and return to the previous menu

CHANGE USER PASSWORD

```
CURRENT PASSWORD      :   XXXX
NEW PASSWORD          :   YYYY
CONFIRM PASSWORD      :   YYYY
```
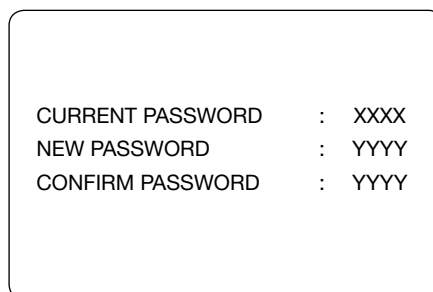
Change User Password Screen

This screen allows you to change user password.

Password can be 4 digits. Factory Default setting is 1111.

The user is not allowed to setup or program the KBD controller and the Dome Camera.

CHANGE ADMIN PASSWORD

```
CURRENT PASSWORD      :   XXXX
NEW PASSWORD          :   YYYY
CONFIRM PASSWORD      :   YYYY
```

Change Administrator Password Screen

This screen allows you to change administrator password.

Password can be 4 digits. Factory Default setting is 9999.

Log on Administrator level allows all rights of operation, setup, and program.

NOTE: If you forget your own password, contact service personnel or distributor.

NETWORK SETUP

```
                NETWORK

        SET BAUD RATE
        COMMUNICATION PORTS
        MUX CONFIGURATIONS
        ALIAS PRESET MENU
        SET SLAVE KEYBOARD
        SAVE AND EXIT
```

Network Setup Screen

Set Baud rate	Enters the Baud rate setup submenu
Communication Ports	Enters the Communications Ports setup submenu
MUX Configurations	Enters the MUX configurations setup submenu
Set Slave Keyboard	Enters the Slave KBD controller submenu

SET BAUD RATE

```
              BAUD RATE

        DOME1          :   9600
        DOME2/DVR      :   9600
        MUX/KBD        :   9600
        DVR/AUX        :   9600
        ALARM/AUX      :   9600
        SAVE AND EXIT
```

Baud Rate Setup Screen

This screen allows you to set up baud rate of each port.

Communication speed can be set 2400/ 4800/ 9600/ 19200/ 38400/ 57600/ 11.5k/ 230k. bps

COMMUNICATIONS PORTS

```
┌─────────────────────────────────────────┐
│                                         │
│           PORT DEFINITIONS              │
│                                         │
│    DOME1            :   DOME            │
│    DOME2/DVR        :   DOME            │
│    MUX/KBD          :   DUPLEX          │
│    DVR/AUX          :   NONE            │
│    ALARM/AUX        :   NONE            │
│    SAVE AND EXIT                        │
│                                         │
└─────────────────────────────────────────┘
```

Port Definitions Setup Screen

This screen allows you to select what kind of device will be connected on the port of J-BOX.

Dome1	DOME / NONE
Dome2/DVR	DOME / DVR1-DVR4 / PC DVR / AUX IN / AUX I/O / NONE
MUX/KBD	DUPLEX / TRIPLEX / AUX IN / AUX I/O / NONE
DLR/AUX	DVR1-DLR5 / PC DVR / AUX IN / AUX I/O / NONE
Alarm/AUX	ALARM BOX / AUX I/O / NONE

NOTE: AUX IN: auxiliary signal input (simplex mode)

       AUX I/O: when auxiliary signal input, respond to the signal (Half duplex mode)

MULTIPLEXER CONFIGURATION

```
┌─────────────────────────────────────────┐
│ MUX CONFIG.              PAGE : 01      │
│ CAM   MUXA  IN OUT    MUXB  IN  OUT     │
│ 001 :  01   01 –> 01  ▶ 05   -- –> --   │
│ 002 :  --   -- –> --  ▶ --   -- –> --   │
│ 003 :  --   -- –> --  ▶ --   -- –> --   │
│ 004 :  --   -- –> --  ▶ --   -- –> --   │
│ 005 :  --   -- –> --  ▶ --   -- –> --   │
│ 006 :  --   -- –> --  ▶ --   -- –> --   │
│ 007 :  --   -- –> --  ▶ --   -- –> --   │
│ 008 :  --   -- –> --  ▶ --   -- –> --   │
│ ON :  AUTO  OFF:DEL. SAVE:PGM ESC       │
└─────────────────────────────────────────┘
```

Multiplexer Configuration Setup Screen

This screen allows you to set multiplexer switching settings when you select the camera by pressing **No. + CAM**.

Up to 64 Cameras can be installed using 5 MUXs and 4 KBD controllers. It is equivalent to a 64x4 matrix system. All 4 user can view one of 64 cameras to his own Spot (AUX) monitor.

Navigate to 001 Camera and configure switching methods. According to the number of MUXs attached, the remaining camera fields can be filled automatically by pressing the **ON** Key.

ID of MuxA is always 01, and ID of MuxB is 02 or 05 depending on the quantity of MUXs attached. (e.g.: MuxB ID=02 in two Mux system, MuxB ID= 05 in 3 MUXs or more.)

Refer to the recommended configuration examples & multiplexer configuration examples.

NOTE: Specific multiplexer is compatible to this system. Recommended Multiplexer is

       Single user: HCXooN (DUPLEX) (oo is No. of camera inputs ie, 04, 09, 16)

       Multi user: HCXooT (TRIPLEX) (oo is No. of camera inputs ie, 04, 09, 16)

ALIAS PRESET MENU

```
ALIAS PRESET MENU        PAGE : 001
NO.        DOME ID    ALARM NO INPUT
0001:  001   ---  ---    0001    NO
0002:  002   ---  ---    0002    NO
0003:  003   ---  ---    0003    NC
0004:  ---   ---  ---    ----    --
0005:  ---   ---  ---    ----    --
0006:  ---   ---  ---    ----    --
0007:  ---   ---  ---    ----    --
0008:  ---   ---  ---    ----    --
ON :  AUTO  OFF:DEL. SAVE:PGM  ESC
```

Alias Preset Menu Setup Screen

This screen allows you to set the KBD controller's internal alias preset, each alias preset can have 3 dome cameras' position. You can execute this function when alarm signal is detected or press **No. + ALRM**. This programmed data is saved at the KBD controller's memory. Alias preset can be saved up to 1024.

You can save alias preset by press **No. + CTRL + ALRM** at the selected dome camera position.

SLAVE KEYBOARD SETUP MENU

```
            SLAVE KEYBOARD

SLAVE KEYBOARD      :   ON
DOME HOLDING TIME   :   003 SEC.
SLAVE KEYBOARD      :   1 UNIT
MUX CONTROL         :   ON
DVR CONTROL         :   ON
DOME MENU SETUP     :   ON
GRANT DOME ACCESS
SAVE AND EXIT
```

Slave KBD Setup Screen

This screen allows you set up Slave KBD controller, how many the slave KBD controller and Mux menu controllability and DVR menu controllability, etc.

Slave Keyboard	When set to ON, Slave KBD controller can control the unit which is connected Master KBD controller.
Dome Holding Time	When set to 0 ~ 200 second, Slave KBD controller's user can operate the dome camera which Master KBD controller's user have controlled after elapsed time (1 ~ 200 Sec or infinite).
Slave Keyboard unit	Enters the Slave keyboard unit submenu.
Mux control	When set to ON, Slave KBD controller is allowed to access Mux setup menu.
DVR control	When set to ON, Slave KBD controller is allowed to access DVR setup menu.
Dome menu setup	When set to ON, Slave KBD controller is allowed to access Dome menu setup.
Grant dome access	Enters the Grant Dome Access submenu.

NOTE: If the number of connected Slave KBD controllers is not matched, master KBD controller will display error message.

SLAVE KEYBOARD UNIT

```
         SLAVE KEYBOARD UNIT

SLAVE ID 1          :   ON
SLAVE ID 2          :   ON
SLAVE ID 3          :   ON
SAVE AND EXIT
```

Slave Keyboard Unit Screen

This screen allows you to set up each Slave KBD controller On or OFF.

Slave ID No.	When set to ON, Slave KBD controller's user can operate the unit which is connected Master KBD controller.

GRANT ACCESS DOME

```
GRANT ACCESS DOME        PAGE : 01
SLAVE CAN'T ACCESS       BLINK  ID
001   002   003   004   005   GBL   ---
---   ---   ---   ---   ---   ---   ---
---   ---   ---   ---   ---   ---   ---
---   ---   ---   ---   ---   ---   ---
---   ---   ---   ---   ---   ---   ---
---   ---   ---   ---   ---   ---   ---
---   ---   ---   ---   ---   ---   ---
---   ---   ---   ---   ---   ---   ---
PGM : SAVE                  ESC : QUIT
```

Grant Access Dome Setup Screen

GBL	Restrict GBL command from the Slave KBD controller

This screen allows you to select out of the connected dome camera which the Slave KBD controller's user can't access. Blink ID was selected dome camera.

DATA BANK

```
             SELECT DATA BANK

                          ID SAVED DATE
DATA BANK1 :  –   –   –   –   –   –
DATA BANK2 :  –   –   –   –   –   –

EXIT
```

Select Data Bank Screen

This screen allows you to select data bank on which programmed data can be saved.

```
  DATA-BANK : 1
– EMPTY DATA –


DOWNLOAD DATA FROM DOME
UPLOAD DATA TO DOME
CLEAR THIS DATA EXIT
```

Data Bank Screen

This screen allows you to download the Programmed data from the selected dome camera to KBD controller non-volatile memory and upload the downloaded data to the selected dome camera and clear the data-bank

Clear This Data: Clear saved data in the KBD controller.

TIME & DATE

```
┌─────────────────────────────────────┐
│            TIME & DATE              │
│                                     │
│  DISPLAY              : ON          │
│  DATE/DAY             : 29 THR      │
│  MONT                 : JAN         │
│  YEAR                 : 2004        │
│  HOUR                 : 15          │
│  MINUTE               : 37          │
│  SAVE AND EXIT                      │
│                                     │
└─────────────────────────────────────┘
```

Time & Date Setup Screen

This screen allows you to set the KBD controllers' Time & Date.

Display: When set to Off, the KBD controller will hide the time.

ALARM MENU

```
┌─────────────────────────────────────┐
│            ALARM MENU               │
│                                     │
│  ALARM CHECK          : ON          │
│  ALARM BEEP           : ON          │
│  ALARM DELAY          : LATCH       │
│  ALARM BOX                          │
│  SAVE AND EXIT                      │
│                                     │
└─────────────────────────────────────┘
```

Alarm Menu Screen

This screen allows you to set up the actions KBD controller will take when there is an alarm condition.

Alarm Check	When set to ON, the KBD controller will check alarm signal and each port of J-box can be connected 32 dome cameras. When set to OFF, it will not check alarm signal and each port of J-box can be connected 128 dome cameras.
Alarm Beep	When set to ON, the KBD controller will sound beep when alarm signal is detected.
Alarm Delay	When set to 0~99 Sec, the KBD controller will show Alarm status for the setting time. when set to Latch, the KBD controller will show the Alarm status until cleared by user.

ALARM BOX

```
┌─────────────────────────────────────┐
│          ALARM BOX MENU             │
│                                     │
│  ALARM LATCH          : ON          │
│  ALARM HOLD TIME      : 04SEC       │
│  ALARM SCHEDULE                     │
│  ALARM HISTORY                      │
│  SAVE AND EXIT                      │
│                                     │
└─────────────────────────────────────┘
```

Alarmbox Menu Screen

Alarm latch	When set to On, alarm message does not disappear until you erase the message.
Alarm hold time	You can set time from Off to 99 second.
Alarm Schedule	Enters the Alarm Schedule submenu.
Alarm History	Enters the Alarm History submenu.

ALARM SCHEDULE

```
ALARM SCHEDULE          PAGE : 01
CAM     ALARM      AUX     MACRO
002     12345678    64       8
---       –    –     –        –
---       –    –     –        –
---       –    –     –        –
064     – 2---56 –   8        –
---       –    –     –        –
---       –    –     –        –
---       –    –     –        –
ON : INS.    OFF : DEL.   PGM   ESC
```

Alarm Schedule Setup Screen

Alarm Schedule has 8 pages. All 8 alarm inputs of 64 dome cameras can be used to activate programmed Macro.

Cam	Camera to be relayed to the alarm box
Alarm	1, 2, 3 ~ 8 – Select alarm Input to be relayed.
Aux	1, 2, 3 ~ 64 – Relay Output No. of alarm box.
MACRO	1, 2, 3 ~ 8 – Programmed macro to be executed by activated alarm.
ON key	Insert row to be newly inserted.
OFF key	Delete row not used.
PGM key	Save And Exit.

ALARM HISTORY

```
ALARM HISTORY              PAGE : 01
CAM    ALARM     DATE         TIME
005     12-4-    JAN-30-04   16:00:37
002     0XFF     JAN-29-04   16:59:33
007     COMM.    JAN-29-04   09:50:23
---
---
---
---
---
OFF : CLEAR HISTORY       ESC : EXIT
```

Alarm History Screen

Alarm History has 32 pages and is capable of displaying 256 events.

Cam	ID of alarm activated dome
Alarm	1, 2, 3 ~ 5 – In case of less than 5 alarm, No. represents activate alarm inputs.
	0XFF – In case of more than 5 alarms, corresponding digits are set to 1.
COMM.	When communication error occurred

SCHEDULE

```
╭─────────────────────────────────╮
│                                 │
│           SCHEDULE              │
│                                 │
│    MACRO TABLES                 │
│    WEEKLY SCHEDULE              │
│    ANNUAL SCHEDULE              │
│    NIGHT SHOT                   │
│    SEQUENCE                     │
│    EXIT                         │
│                                 │
│                                 │
╰─────────────────────────────────╯
```

Schedule Menu Screen

MACRO SETUP

```
╭─────────────────────────────────╮
│                                 │
│         MACRO TABLES            │
│                                 │
│    MACRO 1                      │
│    MACRO 2                      │
│    MACRO 3                      │
│    MACRO 4                      │
│    MACRO 5                      │
│    MACRO 6                      │
│    MACRO 7                      │
│    MACRO 8                      │
│    EXIT                         │
│                                 │
╰─────────────────────────────────╯
```

Macro Table Screen

8 MACRO can be programmed in this menu, select MACRO No. to be programmed.

Automatic functions to be executed by **No. +** **CTRL + MACRO** or activated by alarm and its programmed schedule.

```
╭─────────────────────────────────╮
│ MACRO-01              PAGE : 01 │
│ CAM      FUNCTION     NO        │
│ 005     AUTO   SCAN   001       │
│ ---      –      –      –        │
│ ---      –      –      –        │
│ ---      –      –      –        │
│ ---      –      –      –        │
│ ---      –      –      –        │
│ ---      –      –      –        │
│ ---      –      –      –        │
│ ON : INS.   OFF  :  DEL.  PGM ESC│
╰─────────────────────────────────╯
```

Macro Setup Screen

Cam	ID of installed domes - 1, 2, 3 ~ 64
	1 ~ 254 (Alarm check OFF)
Function	Functions to be executed. (Auto Scan, Pattern, Tour....)

WEEKLY SCHEDULE

```
        WEEKLY SCHEDULE
MACRO        TIME        DAY
  01        17 : 05     EVERY DAY
  08        03 : 00     SUNDAY
  07        08 : 30     MON-FRI
  01        11 : 05     SAT-SUN
  – –        –   –       –   –
  – –        –   –       –   –
  – –        –   –       –   –
  – –        –   –       –   –
ON : INS.   OFF : DEL.   PGM  ESC
```

Weekly Schedule Setup Screen

This screen allows you to set weekly schedule to execute Macro command.

Macro	MACRO No. to be executed at the time
Time	Time to execute MACRO
Day	Work day or holiday

ANNUAL SCHEDULE

```
            ANNUAL SCHEDULE
MACRO     DATE       TIME      DAY
  01     JAN - 01   17 : 05    SAT
  – –      –   –      –          –
  – –      –   –      –          –
  – –      –   –      –          –
  – –      –   –      –          –
  – –      –   –      –          –
  – –      –   –      –          –
ON : INS.  OFF : DEL.   PGM     ESC
```

Annual Schedule Setup Screen

This screen allows you to set annual schedule to execute Macro command on the set time.

Macro	Macro No. (01 ~08) to be executed
Date	Specific date of year
Time	Time to execute the macro
Day	Day of week

NIGHT SHOT SCHEDULE

```
          NIGHT SHOT


NIGHT SHOT          : ON
ON TIME             : 19 : 30
OFF TIME            : 07 : 30
SAVE AND EXIT
```

Night Shot Schedule Setup Screen

This screen allows you to schedule that Night Shot mode is activated at programmed time.

Night shot	When set to ON, the dome camera of which night shot mode is global will change the night shot mode at programmed time.
On time	Time to be forced Night
Off time	Time to be forced normal mode

SEQUENCE SETUP

```
╭─────────────────────────────────────╮
│            SEQUENCE GROUP            │
│                                     │
│   SEQUENCE – G1   SETUP             │
│   SEQUENCE – G2   SETUP             │
│   SEQUENCE – G3   SETUP             │
│   SEQUENCE – G4   SETUP             │
│   SEQUENCE – G5   SETUP             │
│   SEQUENCE – G6   SETUP             │
│   SEQUENCE – G7   SETUP             │
│   SEQUENCE – G8   SETUP             │
│   EXIT                              │
╰─────────────────────────────────────╯
```

Sequence Group Menu Screen

This screen allows you to select sequence group No. for settings.

```
╭─────────────────────────────────────╮
│ CAM SEQ-1                 PAGE : 01 │
│ NO.  CAM   PRESET  AUX-NO.  DWELL   │
│ 01   001    002      4      10 SEC  │
│ 02   064    ---      1       5 SEC  │
│ 03   007    ---      3      99 SEC  │
│ 04   ---    ---      –      –  –    │
│ 05   003    001      2       3 SEC  │
│ 06   ---    ---      –      –  –    │
│ 07   ---    ---      –      –  –    │
│ 08   ---    ---      –      –  –    │
│ ON : INS.  OFF : DEL.   PGM    ESC  │
╰─────────────────────────────────────╯
```

Sequence Setup Screen

This screen allows you to set the specific camera is displayed specified spot output of the MUX for programmed time.

No.	No of Seq (01,02,03 ~64)
Cam	No. of Mux channel
Preset	Preset No. to be called. Normal camera won't be changed.
Aux-no	Spot output No. of MUX
Dwell	Dwell time of switching. You can set time from 3 to 99 second or skip.

2.11 Install with Standalone DVR Series

Wire Connection

DOME	JUNCTION BOX
R(T)X+	DOME 1 +
R(T)X−	DOME 1 −

DVR	JUNCTION BOX
TX+	DOME 2 +
TX−	DOME 2 −

PTZ control from DVR
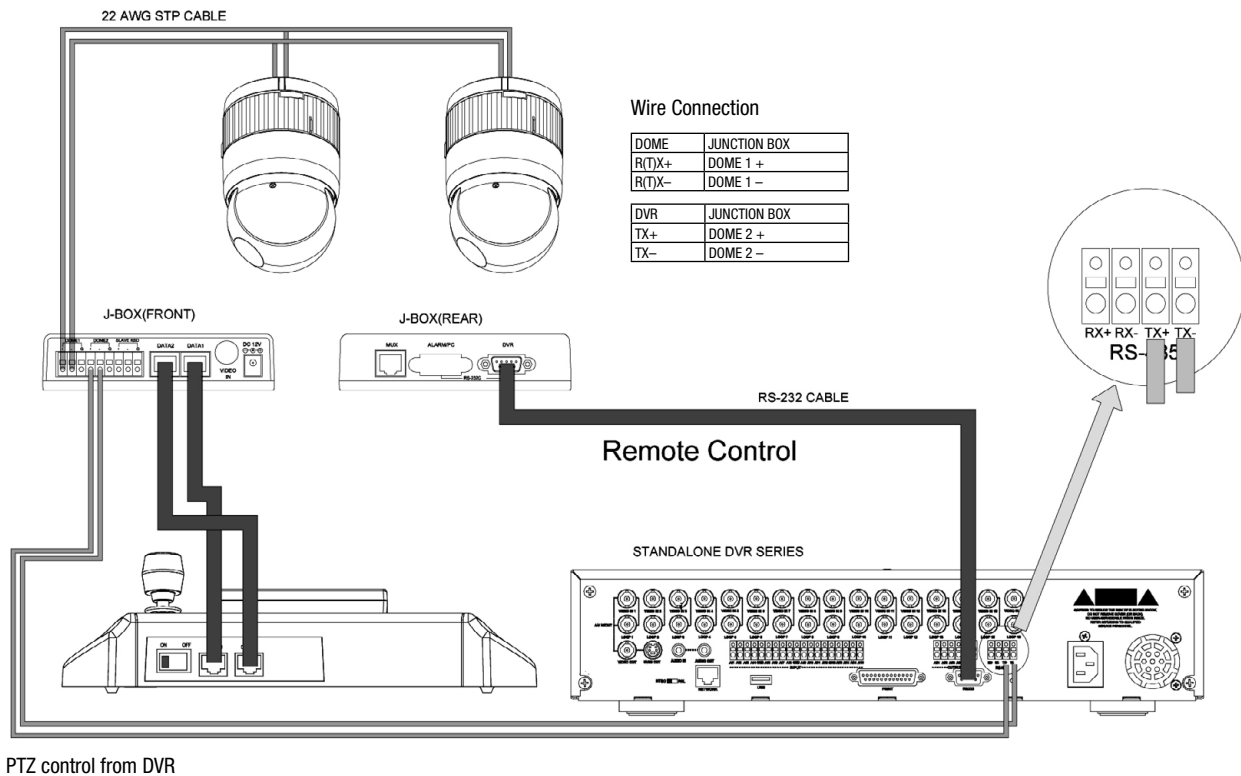
Figure 9: DVR Connection diagram

DVR1 or DVR2 can be set by following method though the menu system and screen are different.

If user wants to connect with DVR, proceed as the following order:

1. Connect RS-232 cable between RS-232 Port of DVR and DVR port of the J-box. (This connection enables DVR control remotely from KBD controller)
2. Connect 8 pin Multi cable between the data2 port of the KBD and the J-BOX.
3. Connect wires between the TX (+/-) of DVR and DOME2 (+/-) of J-Box. (This connection enables DVR PTZ control from the keyboard controller)
4. How to setup the KBD controller.
   A. Switch the KBD controller ON
   B. Input password (Factory setting is **9999**)
   C. Open the menu of the KBD controller by pressing **CTRL + MENU** Key.
   D. Set as below in Network menu.

```
            BAUD RATE

DOME 1          :  9600
DOME 2/DVR      :  9600
MUX/KBD         :  9600
DVR/AUX         :  9600
ALARM/AUX       :  9600
SAVE AND EXIT
```

```
          PORT DEFINITIONS

DOME 1          :  DOME
DOME 2/DVR      :  AUX IN
MUX/KBD         :  NONE
DVR/AUX         :  DVR1 (or DVR2)
ALARM/AUX       :  NONE
SAVE AND EXIT
```

5. How to setup DVR
   A. Switch the DVR on.
   B. Press the **Menu** button. Input password according to the instruction. (Factory setting is **4321**)
   C. If the below screen is appeared, set „Quick Setup" to „Off".

   ```
   Quick Setup

                           Quick Setup          On

               Recording Speed/Quality      60 ips        High
                       Audio Recording         Off

                    Sequence Dwell Time       3 sec

                            System Information...
                      Camera...          Network Setup...
                      Password...           Date/Time...


                            OK        Cancel
   ```

   D. Press „OK", and the below screen will be appeared.

   ```
       System Information
       Date/Time
       System Check
       System Log
     ▲       ▲        ▲        ▲        ▲        ▲        ▲        ▲
   System  Device  Record   Event   Display  Network  Password  Config
                            Action
   ```

   E. Select „System Information" on the system menu and change UNIT ID.

   ```
   System Information Change

                  Site Description  [                    ]

                        Unit ID        0

                       Language      English
                                   English
                                   Français
                                   Deutsch
                                   Italiano
                                   Español


                            OK          Cancel
   ```

F.   Select „Camera" on the Device menu. Unit ID should be 1 up to 99. Unit ID is not allowed number „0".

G.   Set „PTZ Device" and „ID" of the dome camera. Select RS232/RS485 after PTZ is installed, and then set-up as below table.

RS-232/RS-485	Baud Rate	Parity	Data	Stop	Usage
RS-232	9600	None	8	1	Remote Control
RS-485	9600	None	8	1	PTZ Control

6.   After setting Unit ID, Camera, and RS-232/RS-485, installing dome camera is basically completed. Please refer to the manual of DVR for the other installation.

7.   Press the related number of the controller which is correspondent to unit ID of DVR. Then press DVR button and adjust unit ID of the controller

8.   Make sure if any change is appeared on screen when you press ⊞ button of the controller for basic testing. If there's no change appeared, verify cable connection and setting of installation.

3. Operation

3.1 Keyboard Lock/Unlock

When the user leaves the control desk, he may wish to lock the keyboard controller to prevent unauthorized use.

Pressing **777 + ENTR** will lock the keyboard controller. Pressing **777 + ENTR** while the keyboard is locked will open the password screen. If the correct password is entered, the keyboard controller will return to normal operation.

If the power is turned off and on while the keyboard is locked, it will ask for the password. Entering the correct password will cause the keyboard controller to return to normal operation.

NOTE: If you forget your own passwords, turn off the keyboard controller, contact your distributor to get a 4-digit back door password. This will change the passwords to the factory default. Contact your distributor to get the 4-digit back door password.

3.2 Selecting Camera & Mux Control

3.2.1 Duplex/Simplex Setup

NOTE: Multiplexers require a new ROM version to be controlled by the keyboard controller. The new multiplexer ROM accepts control instructions from the keyboard controller. If your multiplexer's serial number is M104xxxx or higher, then it is ready to accept control instructions. Alternately, you can check the status of your multiplexer by pressing the Menu key of the multiplexer and then selecting item 9. If you see the „** Protocol" option line in the Communication Setup menu, your multiplexer has the new ROM, and you do not need to replace the ROM. If your multiplexer has the old ROM version, contact your distributor on how to get new a ROM.

CAUTION: Before opening the multiplexer, make certain you are working on an antistatic work surface and that you are wearing a grounding wrist strap. Also, be very careful to orient the ROM chip correctly and not bend any of the pins.

NOTE: Replace the multiplexer firmware with the new multiplexer ROM (U45) as follows; Remove the top cover of the multiplexer, and locate the ROM (U45). Before removing the ROM, note the orientation of the ROM. After removing the old ROM from the socket, insert the new ROM. Be careful to orient the new ROM the same as the old ROM. (Refer to the Multiplexer instruction manual.)

Press the **MENU** key of the multiplexer to enter the Unit Options using ▼ and **SET** key of mux.

9. Unit Options

Unit Number	001 (first Mux) or 002 (second Mux)

Press ▼ and **SET** key of the multiplexer to enter the Communication setting.

Communication

Type	RS 485
Baud rate	9600 bps
PORT	ON
Protocol	B (If you see this line, the multiplexer has the new ROM)

NOTE: The old ROM version does not show Protocol selection option.

Multiplexer alarm inputs will function normally, but the KBD controller has no way of knowing about alarms wired to the Multiplexer. If a Dome preset is required for such an alarm, you must connect the same alarm input to both the multiplexer and the Dome Camera.

3.2.2 Triplex Setup

Press ▲ key double of the multiplexer to enter the Main Menu. Enter the Unit Setup using ▲ ▼ ▶ ◀ and SET key of the multiplexer.

Network Type	RS 485
Baud Rate	9600 bps
Unit address	001 ~ 128
Protocol	B1

- **Selecting camera** (**No.** + **CAM** and **PREV** or **NEXT**)

  With these selections, the keyboard controller has full control of the selected camera if it is a dome camera.

  Viewing Full Screen (Multiplexer video input **No.** + **MAIN**) The selected multiplexer's video input will appear in the full-screen mode. Even if no camera is connected to the multiplexer input, the screen will show the camera input (refer to the following example).

- **Selecting multiplexer** (Mux ID **No.** + **MUX**)

  Example: If the unit address of the Multiplexer is 128, you should press **1 2 8** + **MUX** to control the 128th Multiplexer.

  If the spot output of the first multiplexer is connected to the 16th video input of the second multiplexer, you can see selected camera output through the spot output of the second multiplexer by pressing camera **No.** (1 to 31) + **CAM**

  For example: 1+**CAM** will switch camera 1 to the second multiplexer spot output and you can control all functions of the selected camera using the keyboard controller.

  If you install more than two Multiplexers, the unit number (address) of the Multiplexer and selection of the Multiplexer must be the same in order to control the Multiplexer with the Keyboard.

- **In case no multiplexer configuration**

  Picture on Spot Output of the Multiplexer (Mux's video input **1 ~ 1 6 + AUX1~4**)

  Pressing Mux's video input **1 ~ 1 6 + AUX1 ~ AUX4** will switch the selected video input number to the specific spot monitor output of the multiplexer. The selected camera can be a dome camera or a standard camera. The Keyboard controller maintains control of the previously selected dome camera. It does not change the main output of the multiplexer.

  Example: **1 + MUX**, **2 + AUX1** will switch camera 2 on multiplexer 1 to the spot output of multiplexer 1.

  2 + MUX, 3 + AUX1 will show camera 3 on spot output of multiplexer 2.

  1 + CAM will switch camera 1 to the spot output of multiplexer 1 and the keyboard controller has control of the selected camera.

- **In case 2~5 multiplexer configuration**

  In a 2~5 multiplexer configuration, **1 8 + CAM** will switch camera 18 (second camera on Multiplexer 2) to the spot output of multiplexer 2 and the keyboard controller has control of the selected camera.

3.3 Camera Control

Manual Focus CONTROL

Press the keyboard buttons Far and Near to manually focus the camera. When the ZOOM handle of the joystick is twisted slightly, the camera will return to Auto Focus mode

Manual Iris CONTROL

Press the keyboard buttons Open and Close to manually open and close the iris. Move the joystick slightly to return to Auto Iris mode.

Zoom CONTROL

Twist the joystick to zoom in and out. Zoom control has two steps of speeds and is proportional to the amount the zoom handle is twisted.

Glbl (Global) COMMAND

It is possible to cause all cameras to move to preset positions simultaneously with this feature.

(For example, pressing **1 + ENTR/GLBL** make all dome cameras to move to Preset 1 at the same time.)

Global preset can call presets 1 to 240 if programmed properly.

Pressing **888 + ENTR/GLBL** will cause all cameras in the global mode to switch to night shot (B&W) mode.

Pressing **999 + ENTR/GLBL** will cause all the cameras in global mode to return to normal (Colour) mode.
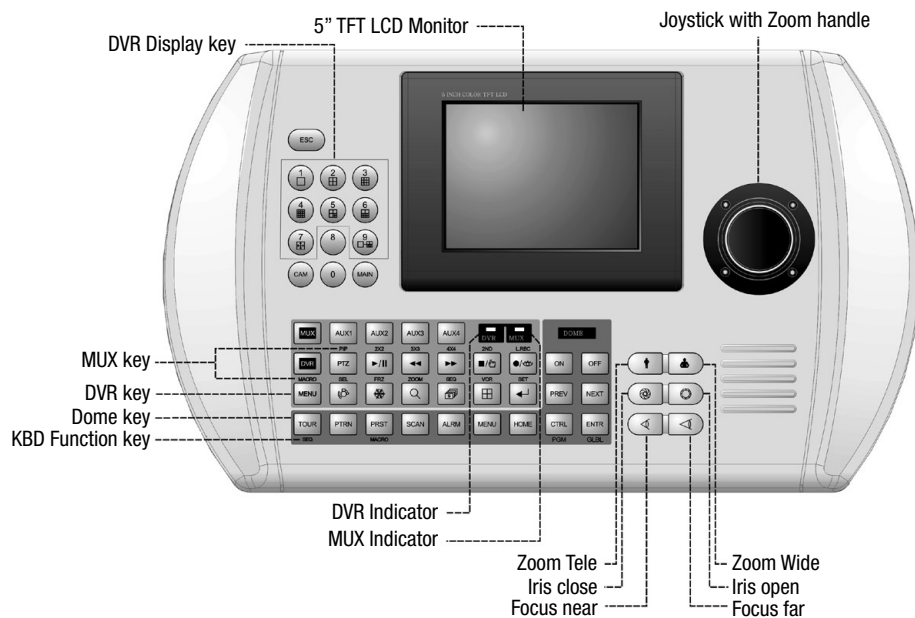
Figure 16: Keyboard Key map
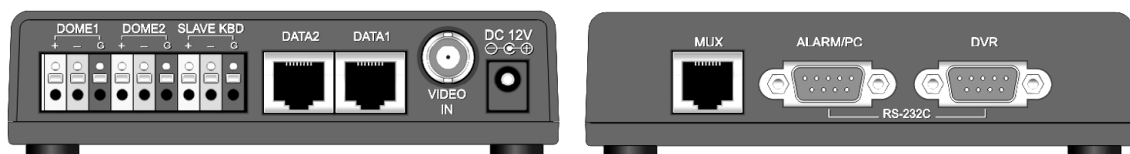
Figure 17: J-box Front & Rear

3.4 Summary Of Keyboard Controls

Keys for Dome Camera

Function	Key Label	Descriptions
Camera selection	**0..9 + CAM**	Displays the selected camera on the spot out of the multiplexer and allows the camera to be controlled by the keyboard controller, if the selected camera is a dome camera. Function number selection with function keys. (e.g. **1 + CAM**, **3 + TOUR**, **5 + SCAN**, **6 + PRST**)
Cancel	**ESC**	Cancels current inputs. Exits from currently running functions or menu, error status, etc.
Alarm	**ALRM**	Disregards all currently activated alarms and turns off the beep temporarily. If alarm is activated again within the programmed hold time, the timer will restart and beep again.
Relay ON	**ON**	Relay No. **1~4 + ON** will activate the selected relay.
Relay OFF	**OFF**	Relay No. **1~4 + OFF** will disable the selected relay.
Previous	**PREV**	Allows the previous dome camera to be controlled manually.
Next	**NEXT**	Allows the next higher number dome camera to be controlled manually.
Home	**HOME**	Immediately calls Home function. Deletes selected value or function in programming mode
Global	**GLBL**	Sends all cameras to preset (e.g. **1, 2... 55 + ENTR/GLBL**). **888 + ENTR/GLBL**: Night shot mode, **999 + ENTR/GLBL**: Normal mode
Call Preset position	**PRST**	Pressing Prst will bring up the preset programming menu. Recalls preset; e.g. **1, 2 ... 31 ... 240 + PRST** In the preset or tour programming mode, the operator can review the exiting preset (selected by cursor) by pressing this key.
Tour	**TOUR**	Pressing **TOUR** will bring up the tour programming menu directly. Recalls programmed presets or functions sequentially. (e.g., **1 ~ 8 + TOUR**)
Pattern	**PTRN**	Pressing **PTRN** will bring up the pattern programming menu directly. Repeats the selected pattern of the current dome camera. (e.g. **1 ~ 4 + PTRN**)
Auto Scan	**SCAN**	Pressing Scan will bring up the Auto Scan programming menu. Calls Auto panning function (e.g. **2 + SCAN** repeats Auto Scan 2).
Configuration	**MENU**	Enters programming menu. **CTRL + MENU** will invoke Keyboard set up menu
Program	**CTRL PGM**	**No. + CTRL/PGM + PRST** will store current view as a preset directly. **No. + CTRL/PGM + TOUR** will open programming menu **No. + CTRL/PGM + SCAN** will open programming menu
Control	**CTRL PGM**	**CTRL+Joystick:** In a programming mode (Preset, Pattern, Scan, Privacy....) the joystick operates as if in the normal control mode. While pressing and holding down the **CTRL** key, all movements of the joystick will start recording when in the pattern programming menu. **CTRL + Joystick:** In normal operation mode, manual speed of the joystick control will be operated in turbo mode. (Max. speed = 380°/sec)
Enter	**ENTR GLBL**	Completes entering data for the password or title **ENTR + Joystick:** Direction key in DVR remote mode or Mux (PTZ, Mouse, Cursor)
Manual Focus	◁ ◁	Overrides auto focus. Moving the Zoom handle reactivates Auto Focus mode.
Manual Iris	⊛ ⚪	Overrides auto iris. Moving the joystick reactivates Auto Iris mode.
Zoom	⬆ ⬛	Zoom control
Joystick	**Twist** **Up / Down** **Left / Right**	Zoom control (proportional to position). Tilt control, Cursor Up / Down in the menu Pan control, Cursor Left / Right or Page scroll in the menu.

Keys for Multiplexer

Function	Key Label	Descriptions
Full Screen	**No. + MAIN**	Puts the multiplexer in Full-Screen Mode of the selected camera No.
PiP	**PIP**	Picture-in-Picture mode
2 x 2 Display	**2X2**	Displays view of four cameras. The remaining cameras can be sequenced in the lower-right window.
3 x 3 Display	**3X3**	Displays view of nine cameras. The remaining cameras can be sequenced in the lower-right window.
4 x 4 Display	**4X4**	Displays view of 16 cameras in 1/16-size pictures.
2nd	**2ND**	Second mode of PIP multiplexer. Pressing **2nd + ENTR** again will return to normal mode.
Panic record	**L.REC**	Put a camera in the Panic Record Mode
Macro	**MACRO**	Same as *Menu* key in the Duplexer model Same as *Macro* key in the Triplexer model
Select or Alarm	**SEL**	Same as *Select* key in the Duplexer model Same as *Alarm* key in the Triplexer model
Freeze	**FRZ**	Freeze the video from the currently selected camera
Digital Zoom	**ZOOM**	Enter the Zoom Mode
Sequence	**SEQ**	Put the multiplexer in the Sequence Mode
VCR	**VCR**	Switch the multiplexer into VCR playback mode
SET	**SET**	This button has several functions. It brings up a Popup menu, sets selections on the OSD menus and decreases numbers in the number setup function.
Spot output	**AUX 1 ~ 4**	Displays selected camera as spot output of the current Multiplexer. (e.g. **2 + AUX1** will display camera 2 as a spot output of the current Multiplexer)
Select Mux ID	**MUX**	Select Multiplexer (e.g.; **1** or **2 + MUX**)
Cursor movement	**ENTR+Joystick**	Up / Down / Left / Right control in the ZOOM and SET UP mode. Handle turn clockwise for SET mode. Handle turn counterclockwise for ESC mode.

Keys for DVR (Some functions may be different according to the DVR)

Function	Key Label	Descriptions
ID Selection	(DVR)	DVR ID Selection (e.g. **1** or **2 + DVR**)
PTZ	(PTZ)	Open a Pan/Tilt/Zoom screen which allows you to control properly configured cameras.
Play/Pause	(▶/II)	Play recorded data / Pause playing
Rewind	(◀◀)	Play video backward at high speed. Pressing the button again toggles the playback speed from ◀◀ , ◀◀◀ and ◀◀◀◀ .
Fast Forward	(▶▶)	Play video forward at high speed. Pressing the button again toggles the playback speed from ▶▶ , ▶▶▶ .and ▶▶▶▶ .
Stop/Preset Save	(■/⏏)	During Playback mode returns the DVR to the Live Monitoring mode. In case PTZ mode, save current position to the preset No.
Record/Preset Call	(●/⏎)	Set the DVR so that it is ready to record video. In case PTZ mode, recall the preset No.
MENU	(MENU)	Enter the Quick Setup screen. You will need to enter the administrator password to access the Quick Setup. Pressing the button also closes the current menu or setup dialog box.
Alarm	(✋)	First, it will reset the DVR's outputs including the internal buzzer during an alarm. Second, it will display the event log when you are in the live monitoring mode unless there is an active alarm.
Freeze	(❄)	Freeze the current live screen
Search	(🔍)	Display the Search menu. Pressing the button again will exit the Search menu.
Sequence	(⧉)	When in the live mode, pressing the SEQUENCE button displays another full live channel sequentially. When in one of the multi-view formats, pressing this button will cause the DVR to sequence cameras in two sequence modes: „Page" and „Cameo". In the Page mode, the DVR sequences through user-defined screen layouts (pages). In the Cameo mode, the bottom, right screen to display live cameras sequentially. Pressing the SEQUENCE button while in the Sequence mode will exit the Sequence mode.

Function	Key Label	Descriptions
Display Mode	(⊞)	Toggle between different display formats. The available formats are: full, 4x4, 3x3, 2x2 and PIP.
Enter	(↵)	Select a highlighted item or completes an entry that you have made.
Display Mode	CTRL + 1 ~ 7 , 9	PC DVR screen mode
Go Last	CTRL + (◄◄)	Go last in PC DVR
Go First	CTRL + (►►)	Go first in PC DVR
X times Backward play	Nr. + (◄◄)	Fast play at x (No.) times speed in PC DVR
X times Forward play	Nr. + (►►)	Fast rewind at x (1~8) times speed in PC DVR
Shuttle ring	CTRL + ENTR + Joystick	The Shuttle Ring only functions in the Playback mode. Turning the ring clockwise plays video forward. Turning the ring counterclockwise plays video backward.
Jog dial	CTRL + ENTR + Zoom Handle	The Jog Dial only functions when playback video has been paused. By turning the jog dial clockwise, you can play video forward image-by-image.
Spot Sequence	AUX1 ~ 4	Toggle On and OFF sequence mode of the selected spot output.
Spot output	No. + AUX1 ~ 4	Displays selected camera as spot output of the current DVR.
Full Screen	No. + MAIN	Displays selected camera in the full-screen mode and enter the numbers in the login menu.
Cursor movement	ENTR + Joystick	Up / Down / Left / Right control in the ZOOM and SET UP mode. Handle turn clockwise for SET mode. Handle turn counterclockwise fro ESC mode.

Keys for Keyboard Controller Function

Function	Key Label	Descriptions
Macro	CTRL + PRST/ MACRO	Execute Macro. e.g. No. + CTRL + PRST/MACRO
Sequence	CTRL + TOUR/SEQ	Execute Sequence. e.g. No. + CTRL + TOUR/SEQ
Sequence Stop	0 + CTRL + TOUR/ SEQ	Stop Sequence
KBD lock/unlock	777 + ENTR	Lock/Unlock the KBD controller
Alias Preset save	No. + CTRL + ALRM	Save Alias Preset Position
Alias Preset recall	No. + ALRM	Recall Alias Preset Position

4. Troubleshooting

If problems occur, verify the installation of the camera with the instructions in this manual and with other operating equipment. Isolate the problem to the specific piece of equipment in the system and refer to the equipment manual for further information.

Problem	Possible Solution
Joystick can't control system.	Check that the dome camera IDs are set properly. Check the polarity of the data line.
Camera number does not match the multiplexer number.	Check the camera ID and insert the BNC cable into the proper input of the multiplexer.
Forgot password	Consult your supplier, distributor or service center.
Multiplexer & DVR can't work with the Joystick controller.	1. Check that the data cable for the multiplexer has the correct Pin configuration (1=1, 2=2, 3=3 ... 8=8). 2. Check the communication menu of Multiplexer as per Pages 15 (setting Multiplexer).
No Video on the KBD controller	1. Check that Back(ground) Screen On/Off 2. Check if the Dome camera is menu status.

Tip 1: Dome Holding Time of the slave keyboard setup menu

When the dome2 port set „AUX IN" even if the slave keyboard is not used, the dome holding time has an effect on the transfer time of the command (FASTRAX protocol only) from the dome2. Set the slave keyboard option to ON to change the dome holding time. After changing the time, set the slave keyboard option to OFF when the slave keyboard is not used. When the slave keyboard or DVR through the dome 2 port has the same as the camera number of the master keyboard, it can operate only after the dome holding time. But two numbers are different, at the same time two cameras can operate.

5. Short Cut Key

Short Cut Key	Function
PRST	Pop up preset setup menu
TOUR	Pop up guard Tour setup menu
PTRN	Pop up Pattern setup menu
SCAN	Pop up Auto Scan setup menu
No.+ PGM+PRST	Store the current view at the selected number
No.+ PGM+TOUR	Pop up tour setup menu at the selected number
No.+ PGM+SCAN	Pop up auto scan setup menu at the selected number
1~ 4+ ON	Turn On Relay
1~ 4+ OFF	Turn Off Relay
10 + ON	Night Shot on
10 + OFF	Night Shot off
11 + ON	BLC on
11 + OFF	BLC off
12 + ON	Digital Zoom on (According to digital zoom setting)
12 + OFF	Digital Zoom off
13 + ON	Dome OSD on
13 + OFF	Dome OSD off
14 + ON	Dome Area Title Display on
14 + OFF	Dome Area Title Display off
15 + ON	View Direction on
15 + OFF	View Direction off
100 + ON	Shutter speed auto
101 + ON	Shutter speed 1/4 (PAL 1/3) sec
102 + ON	Shutter speed 1/2 sec
103 + ON	Shutter speed 1 sec
104 + ON	WDR on
104 + OFF	WDR off
105 + ON	Stabilizer on
105 + OFF	Stabilizer off

5. Specifications

Model	EDC-KBDM3
Art. No.	74092
Integrated Monitor	TFT/LCD monitor (5"/12.7cm screen size)
Video Input	1Vp-p, CVBS, 75ohms
Adjustment	Brightness and colour
Site Control (direct mode operation)	Keys select cameras and monitors, operate presets, patterns, auxiliaries, and sequences. Camera functions: pan, tilt, zoom, focus, iris for fixed or variable speed control of the camera series Fastrax, Minitrax
Protocols	Fastrax IIE and Pelco P&D
Interfaces external storage	3x RS-485, RJ45 (8 pin). 1x KBD (For connection of the junction box: Dome camera series Fastrax), 1x DVR (Recorder series DLR2)
Remote Control	Control of the camera series Fastrax and Minitrax. Recorder series DLR1.2, DLR3/4, DTR, DIR and DPR. Fastrax & Pelco D&P protocol
Supply Voltage	12VDC (connection to the Junction box, 230VAC PSU included)
Power Consumption	Approx. 10watts
Temperature Range	0 to +50°C
Dimensions (HxWxD)	88 (120mm incl. joystick) x400x230mm
Weight	Approx. 1.9kg
Parts Supplied	System keyboard, Junction box with connection cable and PSU
Certificades	CE

The Product is Accessory to

Art. No.	Type	Description
71978	DLR1-04N/160V	Digital Video Recorder (4-Channel) 160GB HDD, Alarm In/Outputs, Ethernet
71979	DLR1-04N/250V	Digital Video Recorder (4-Channel) 250GB HDD, Alarm In/Outputs, Ethernet
71931	DLR2-04N/160	Digital Video Recorder (4-Channel) 160GB Hard Disk, Alarm Input, Ethernet
71932	DLR2-04N/320	Digital Video Recorder (4-Channel) 320GB Hard Disk, Alarm Input, Ethernet
71933	DLR2-04N/480	Digital Video Recorder (4-Channel) 480GB Hard Disk, Alarm Input, Ethernet
71923	DLR3-08N/160CD	Digital Video Recorder (8-Channels) 160GB HDD, CD-RW Drive, Ethernet, 230VAC
71983	DLR3-08N/160CDV	Digital Video Recorder (8-Channels) 160GB HDD, CD-RW Drive, Ethernet,230VAC
71982	DLR3-08N/410CDV	Digital Video Recorder (8-Channels) 410GB HDD, CD-RW Drive, Ethernet,230VAC
71981	DLR3-08N/660CDV	Digital Video Recorder (8-Channels) 660GB HDD, CD-RW Drive, Ethernet,230VAC
71926	DLR3-16N/160CD	Digital Video Recorder (16-Channel) 160GB HDD, CD-RW Drive, Ethernet, 230VAC
71927	DLR3-16N/410CD	Digital Video Recorder (16-Channels) 410GB HDD, CD-RW Drive, Ethernet, 230VAC
71928	DLR3-16N/660CD	Digital Video Recorder (16-Channels) 660GB HDD, CD-RW Drive, Ethernet, 230VAC
71984	DLR3-16N/160CDV	Digital Video Recorder (16-Channel) 160GB HDD, CD-RW Drive, Ethernet,230VAC
71985	DLR3-16N/410CDV	Digital Video Recorder (16-Channel) 410GB HDD, CD-RW Drive, Ethernet,230VAC
71986	DLR3-16N/660CDV	Digital Video Recorder (16-Channel) 660GB HDD, CD-RW Drive, Ethernet,230VAC
71980	DTR-4116/250CD	Digital Video Recorder (16-Channels) 250GB HDD, CD-RW Drive, Ethernet,230VAC
72669	DTR-4116/500CD	Digital Video Recorder (16-Channels) 500GB HDD, CD-RW Drive, Ethernet,230VAC
72671	DTR-4116/750CD	Digital Video Recorder (16-Channels) 750GB HDD, CD-RW Drive, Ethernet,230VAC
71942	DTR-6008/250CD	Digital Video Recorder (8-Channels) 250GB HDD, CD-RW Drive, Ethernet, 230VAC
71929	DTR-6016/250CD	Digital Video Recorder (16-Channels) 250GB HDD, CD-RW Drive, Ethernet, 230VAC
71959	DTR-6016/500CD	Digital Video Recorder (16-Channels) 500GB HDD, CD-RW Drive, Ethernet, 230VAC
71963	DTR-6016/750CD	Digital Video Recorder (16-Channels) 750GB HDD, CD-RW Drive, Ethernet, 230VAC
71955	DPR-2016/500D	Digital Video Recorder (16-Chann.),500GB HDD, DVD, Pentaplex, Ethernet, 230VAC
74137	VKCD-1410	1/4" D&N Colour Dome Camera, 22x Lens, IR Cut Filter, 12VDC/24VAC, 480TVL
74086	EDC-141E	1/4" Day&Night High Speed Dome Camera with 18x Zoom Lens, 24VAC, 480TVL
74091	EDC-143E	1/4" Day&Night High Speed Dome Camera with 23x Zoom Lens, 24VAC, 480TVL
74100	EDC-144E	1/4" Day&Night High Speed Dome Camera with 26x Zoom Lens, 24VAC, 480TVL
74117	EDC-142E2	1/4" Day&Night High Speed Economy Dome Camera, 22x Zoom Lens, 24VAC, 480TVL
74123	EDCH-142E/C	1/4" Day&Night 22x HighSpeed Dome Camera Clear Bubble, 24VAC, 480TVL
74119	EDCH-144E/C	1/4" Day&Night 26x HighSpeed Dome Camera Housing, Clear Bubble, 24VAC, 480TVL

Art. No.	Type	Description
74141	EDCH-142E/C-AKS	1/4" D&N 22x HiSpeed Dome Camera, Bubble Power&Connection Box, 24VAC, 480TVL
74142	EDCH-144E/C-AKS	1/4" D&N 26x HiSpeed Dome Camera, Bubble Power&Connection Box, 24VAC, 480TVL
74150	EDC-3181	1/4" Day&Night High Speed Dome Camera with 18x Zoom Lens, 24VAC, 480TVL
74152	EDC-3221	1/4" Day&Night High Speed Dome Camera Fastrax III, with 22x Zoom, 24VAC, 480TVL
74153	EDC-3261	1/4" Day&Night High Speed Dome Camera Fastrax III, with 26x Zoom, 24VAC, 480TVL
74129	EDC-3361	1/4" Day&Night High Speed Dome Camera, Fastrax III, WDR, 36x Zoom lens, 24VAC, 540TVL
74131	EDMC-2221	1/4" D&N High Speed Mini Dome Camera, 360°, 22x Zoom Lens, 12VDC/24VAC, 480TVL
74116	EDMC-142	1/4" Colour High Speed Mini Dome Camera with 10x Zoom Lens, 24VAC, 430TVL
92112	VKC-1416A/IR	1/4" D&N Camera with 22x Zoom Lens, Removable IR CF, 12VDC, 480TVL
96064	VKC-1416/IR-VHU	1/4" D&N Camera with 22x Zoom Lens, Pre-wired in VHU-165, RS-485, 12VDC
93153	NTC-4101	1/4" Network D&N Colour Camera with 22x Zoom Lens,Removable IR CF, 12VDC, 480TVL
93155	NTD-4101	1/4" Network Colour Mini Dome Camera with 10x Zoom Lens, 12VDC, 430TVL
93157	NTC-4161/PP	1/4" Network D&N Camera with 22x Zoom, Pre-wired in VHU-165, 480TVL, 12VDC

7. Dimensional Drawings
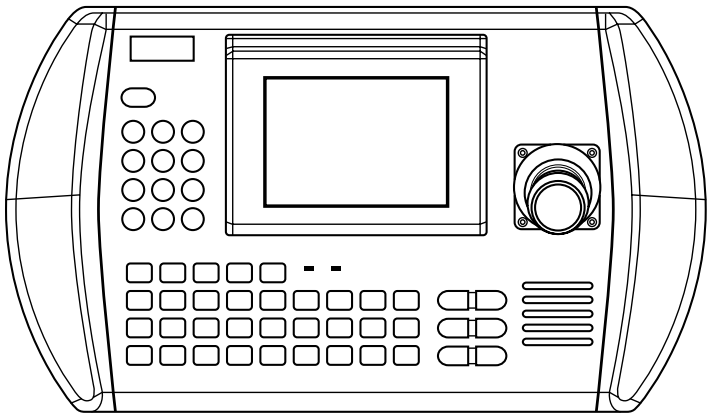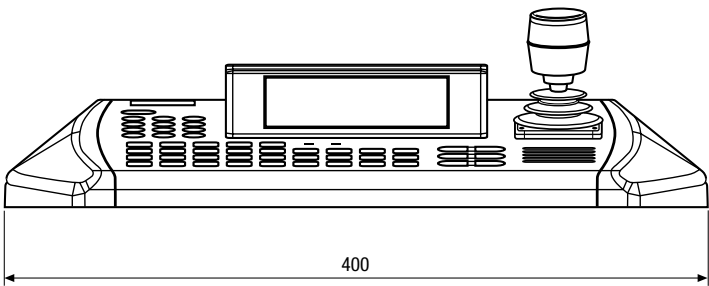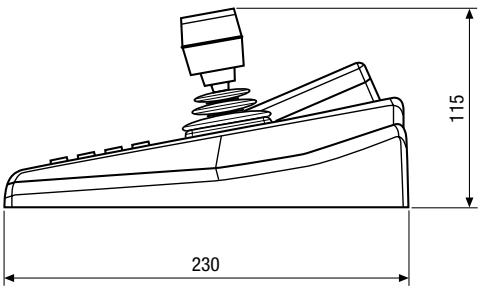
Dimensions: mm

APPENDIX 1

Control the other camera (available Version 3.0 and over)

When you want to control to the camera of Spectra III™ SE series with the FASTRAX camera, refer to the following sentence.

Example of the system configuration
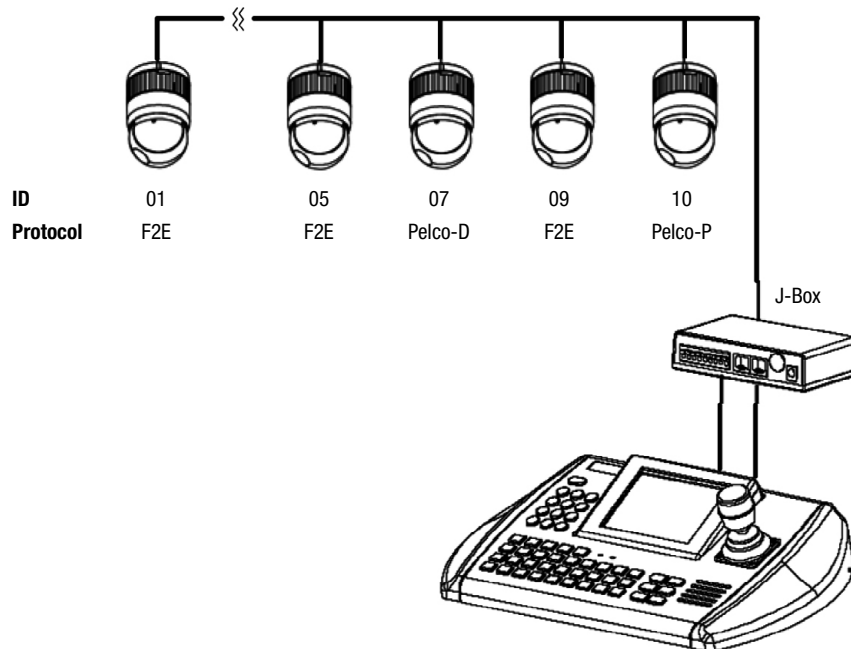
ID	01	05	07	09	10
Protocol	F2E	F2E	Pelco-D	F2E	Pelco-P

J-Box

MAIN MENU

Press **CTRL + MENU** to enter the KBD controller main menu. You will see the following menu.

```
           MAIN MENU
       CONFIGURATION
       NETWORK
       CAMERA
       DATA BANK
       TIME/DATE
       ALARM
       SCHEDULE
       LCD
       EXIT
```
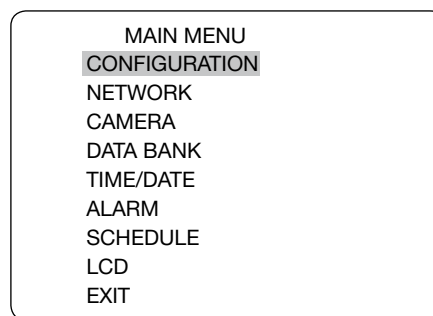
CAMERA	To set the type of cameras.

CAMERA SETUP

```
┌─────────────────────────────────────┐
│ CAMERA SETUP            PAGE : 001   │
│ CAM  PROTOCOL    PORT      BAUD      │
│ 001     F2E      DOME1     9600      │
│ 005     F2E      DOME1     9600      │
│ 009     F2E      DOME1     9600      │
│ - - -    -  -     -  -  -    -  -    │
│ - - -    -  -     -  -  -    -  -    │
│ - - -    -  -     -  -  -    -  -    │
│ - - -    -  -     -  -  -    -  -    │
│ - - -    -  -     -  -  -    -  -    │
│                                      │
│ OFF : DEL    PGM : SAVE   ESC : EXIT │
└─────────────────────────────────────┘
```

When the keyboard has that the alarm option is ON, at the first power on, the camera setup displays as above after the keyboard checks the camera automatically. At this time, the F2E protocol could not be changed. To add the other camera,

1. Position the cursor at the CAM field below 009, the dash blinks.

2. Twist the handle of the joystick clockwise, the next number displays or press camera number and **CAM** button.

3. Set the appropriate protocol of the camera and the appropriate port.

4. Set the appropriate BAUD rate of the camera.

```
┌─────────────────────────────────────┐
│ CAMERA SETUP            PAGE : 001   │
│ CAM  PROTOCOL    PORT      BAUD      │
│ 001     F2E      DOME1     9600      │
│ 005     F2E      DOME1     9600      │
│ 009     F2E      DOME1     9600      │
│ 007   PELCO-D    DOME1     2400      │
│ 010   PELCO-P    DOME1     2400      │
│ - - -    -  -     -  -  -    -  -    │
│ - - -    -  -     -  -  -    -  -    │
│ - - -    -  -     -  -  -    -  -    │
│ OFF : DEL    PGM : SAVE   ESC : EXIT │
└─────────────────────────────────────┘
```

5. Press the **CTRL/PGM** button to save the camera setup.

6. Press the **ESC** button to exit without saving.

7. Press the **OFF** button to delete the selected CAM line.

NOTE: The baud rate of the F2E is according to the value of the set baud rate menu in the network menu.

When the keyboard has that the alarm option is OFF, at the first power on, the camera setup displays the blank menu and set the all camera as above.

```
┌────────────────────────────────┐  ┌────────────────────────────────┐
│ CAMERA SETUP        PAGE : 001 │  │ CAMERA SETUP        PAGE : 001 │
│ CAM  PROTOCOL   PORT    BAUD   │  │ CAM  PROTOCOL   PORT    BAUD   │
│ - - -   -  -    -  -  -   -  - │  │ 001     F2E     DOME1   9600   │
│ - - -   -  -    -  -  -   -  - │  │ 005     F2E     DOME1   9600   │
│ - - -   -  -    -  -  -   -  - │  │ 009     F2E     DOME1   9600   │
│ - - -   -  -    -  -  -   -  - │  │ 007   PELCO-D   DOME1   2400   │
│ - - -   -  -    -  -  -   -  - │  │ 010   PELCO-P   DOME1   2400   │
│ - - -   -  -    -  -  -   -  - │  │ - - -   -  -    -  -  -   -  - │
│ - - -   -  -    -  -  -   -  - │  │ - - -   -  -    -  -  -   -  - │
│ - - -   -  -    -  -  -   -  - │  │ - - -   -  -    -  -  -   -  - │
│ OFF : DEL  PGM : SAVE  ESC : EXIT │ OFF : DEL  PGM : SAVE  ESC : EXIT │
└────────────────────────────────┘  └────────────────────────────────┘
```

Follow above procedure to set the camera.

* You can set 254 cameras up to the page 32.

Keys for other Camera

Function	Key Label	Descriptions
Camera selection	**0..9 + CAM**	Select the camera to be controlled by the keyboard controller.
Previous	**PREV**	Allows the previous dome camera to be controlled manually.
Next	**NEXT**	Allows the next higher number dome camera to be controlled manually.
Call Preset position	**0..9 + PRST**	Recalls preset The presets are numbered 1-32, 35-82, and 100-150 of the Spectra III SE system. (Refer to the manual of the dome camera) The following presets are predefined for specific functions: 33 „Flip" command 96 Stop a scan 34 „Pan zero" command 97 Random scanning 88 IR filter IN (color) 98 Frame scanning 89 IR filter OUT (black-white) 99 Start auto scanning
Program the preset	**No. + CTRL/PGM + PRST**	**No. + CTRL/PGM + PRST** will store current view as a preset directly The programmable presets are numbered 1-32, 35-82, and 100-150 of the Spectra III SE system. (Refer to the manual of the dome camera) The following presets are predefined for specific functions: 90-91 Manual limit stops 92-93 Scan limit stops
Recall Pattern	**No. + PTRN**	Pressing PTRN will run the selected pattern.
Dome MENU	**MENU**	Enters menu. Or **95 + CTRL/PGM + PRST** will enter the menu. **NOTE:** When it can't enter the menu, after pressing **96 + PRST**, try again.
Manual Focus	◁ ◁	Overrides auto focus. Moving the Zoom handle reactivates Auto Focus mode.
Manual Iris	⊛ ○	Overrides auto iris. Moving the joystick reactivates Auto Iris mode.
Zoom	⬆ ⬛	Zoom control
Joystick	**Twist** **Up / Down** **Left / Right**	Zoom control (proportional to position). Tilt control, Cursor Up / Down in the menu Pan control, Cursor Left / Right or Page scroll in the menu.
AUX ON	**1 .. 8 + ON**	**1 + ON** : activates the relay in the dome
AUX OFF	**1 .. 8 + OFF**	**1 + OFF** : turns off the relay in the dome

APPENDIX 2

Control the DVR for the Version 3.1.0 and over (available Version 3.0 and over of the keyboard)

Installation of the DVR4 protocol when one DVR is used

NOTE: When you set the protocol to DVR4, the keyboard operates as the DVR's keyboard only.
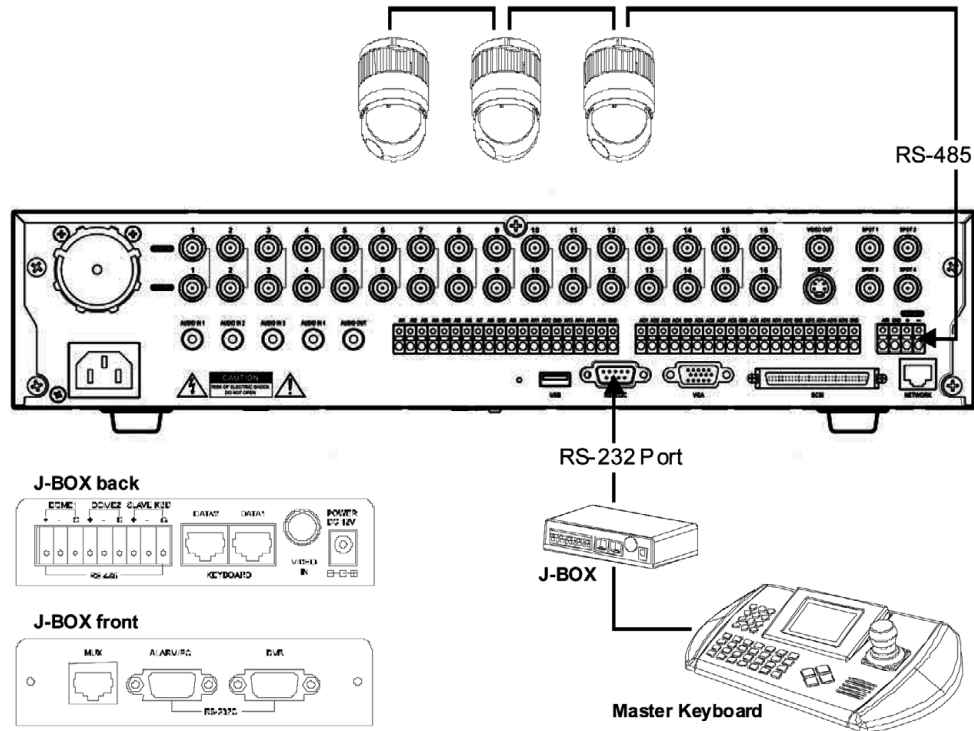
DVR Connection Diagram

When you control the PTZ camera by the DVR, follow as below.

1. Connect RS-232 cable between RS-232 Port of DVR and DVR port of the J-box. (This connection enables DVR control remotely from KBD controller)
2. Connect 8 pin Multi cable between the data1 port of the KBD and the J-BOX.
3. Connect 8 pin Multi cable between the data2 port of the KBD and the J-BOX.
4. Connect wires between the TX(+/-) of DVR and RX(+/-) of PTZ cameras.
5. Switch the KBD controller ON
    A. Input password (Factory setting is **9 9 9 9**)
    B. Open the menu of the KBD controller by pressing **CTRL + MENU** Key.
    C. Set as below in Network menu.

```
          BAUD RATE

DOME1          :  9600
DOME2/DVR      :  9600
MUX/KBD        :  9600
DVR/AUX        :  9600
ALARM/AUX      :  9600
SAVE AND EXIT
```

```
        PORT DEFINITIONS

DOME1          :  NONE
DOME2/DVR      :  NONE
MUX/KBD        :  NONE
DVR/AUX        :  DVR4
ALARM/AUX      :  NONE
SAVE AND EXIT
```

NOTE: The baud rate of DVR/AUX should be the same as one of the RS-232 of the DVR.
**   The port of DVR/AUX should be DVR4.**

6. How to setup DVR:

    D. Switch the DVR on.

    E. Enter the Menu according to the DVR's instruction manual.

    F. Change the Port to „RS-232" of the remote control in the devices menu.

    G. Confirm matching the setup of RS-232 with the keyboard. Ex: Baud Rate:9600, Data Bit:8, Stop Bit:1, Parity:None)

    H. Change the Remote Control to "Remote Control2" in the devices menu.

    I. Change the Port to „RS-485" in the PTZ menu of the camera of the devices menu.

    J. Confirm matching the setup of RS-485 of the PTZ menu with PTZ cameras.

    K. Set the PTZ menu according to PTZ cameras.

    NOTE: The baud rate of all PTZ cameras should be used one speed type (ex. All 9600 or all 2400)

    NOTE: The product of FASTRAX should be used „FASTRAX2"

    L. Set the ID number according to PTZ cameras.

    M. Set the system ID number to 1.

Operation of the keyboard

The camera selection and the full-screen selection of the DVR over 17 will change the number of the DVR automatically. The keyboard calculates the DVR's number based on 16 channel. When the PTZ camera is installed on the DVR, you should select the number of the PTZ camera by the number of the input channel not the ID number of the PTZ camera. For example, when the PTZ camera with the 5 ID number is installed the number 1 of the input jack of the DVR, to control the camera, you select **1 + CAM** not **5 + CAM**.

Action	Key pressing	Remark / LCD display
DVR selection	**1 + DVR**	Displays DVR-001 at the bottom line
Camera selection	**1 + CAM** or **16 + CAM**	CAM:0001 at the top line
	17 + CAM	CAM:0001 at the top line DVR-002 at the bottom line
NOTE: The camera number over 17 will change the DVR number automatically.		
Camera selection of DVR #2	**1 + CAM** or **16 + CAM**	CAM:0001 at the top line DVR-002 at the bottom line
Return to DVR #1	**1 + DVR**	CAM:0001 at the top line DVR-001 at the bottom line
Full-screen selection	**1 + MAIN** or **16 + MAIN**	CAM:0001 at the top line DVR-001 at the bottom line
	16 + MAIN	CAM:0016 at the top line DVR-001 at the bottom line
	17 + DVR	CAM:0001 at the top line DVR-002 at the bottom line
NOTE: The main number over 17 will change the DVR number automatically.		
Return to DVR #1	**1 + DVR**	CAM:0001 at the top line DVR-001 at the bottom line
Control SPOT output	**1 + AUX1**	Camera 1 goes to SPOT 1 output
	16 + AUX2	Camera 16 goes to SPOT2 output
	AUX1	Sequence SPOT 1 output
	AUX1	Stop the sequence of SPOT 1 output

Installation of DVR4 protocol when many DVR use
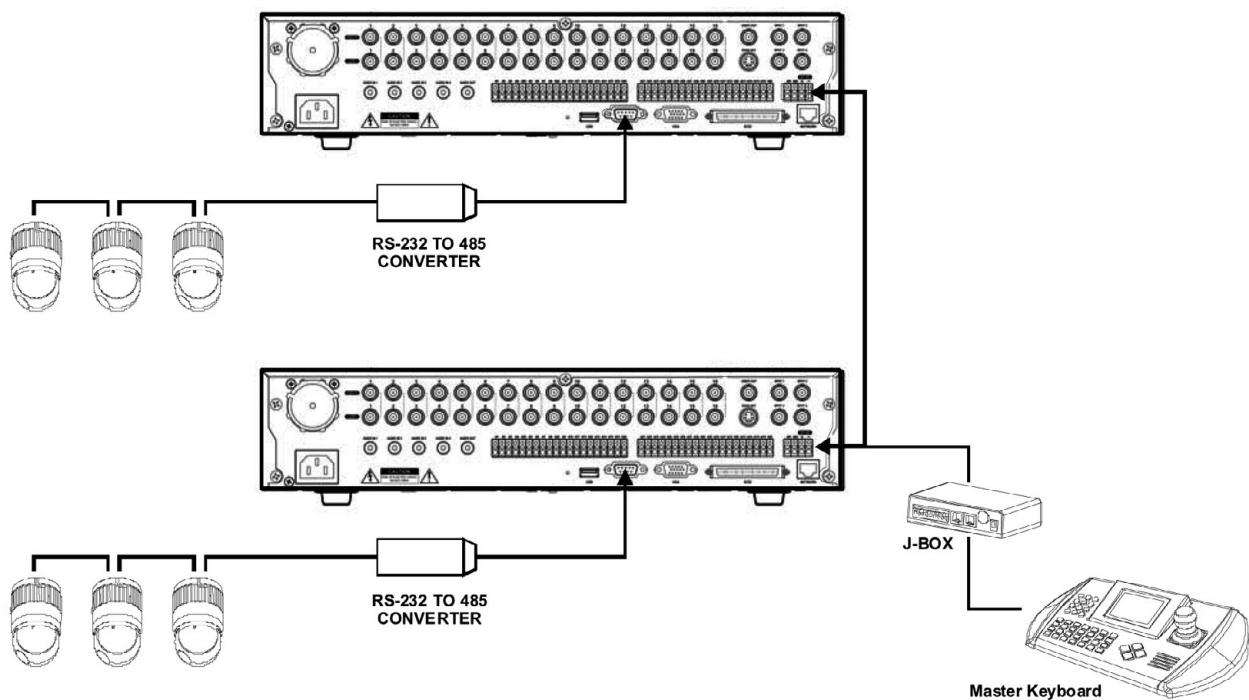
When you control PTZ cameras on many DVRs, you need RS-232 to RS-485 converter. PTZ cameras are connected to RS-232 to RS-485 converter by the RS-232 port of the DVR and the keyboard is connected through the RS-485 port of the DVR. Follow as below.

1. Connect RS-485 cable between RS-485 Port of DVR and the DOME1 port of the J-box.

2. Connect RS-485 cable to the RS-485 Ports of DVRs.

3. Connect RS-232 cable between RS-232 Port of DVR and the RS-232 Port of the RS-232 to RS-485 converter.

4. Connect PTZ cameras to the RS-485 Port of the RS-232 to RS-485 converter.

5. Repeat the step 3-4 each DVR.

6. Set the system ID number of each DVR from 1 to the last DVR increasing 1.

7. Set the network menu of the keyboard as below.

BAUD RATE		
DOME1	:	9600
DOME2/DVR	:	9600
MUX/KBD	:	9600
DVR/AUX	:	9600
ALARM/AUX	:	9600
SAVE AND EXIT		

PORT DEFINITIONS		
DOME1	:	NONE
DOME2/DVR	:	DVR4
MUX/KBD	:	NONE
DVR/AUX	:	NONE
ALARM/AUX	:	NONE
SAVE AND EXIT		

NOTE: The baud rate of DOME1 should be the same as one of the RS-485 of the DVR.

8. How to setup DVR:

    A. Switch the DVR on.

    B. Enter the Menu according to the DVR's instruction manual.

    C. Change the Port to „RS-485" of the remote control in the devices menu.

    D. Confirm matching the setup of RS-485 with the keyboard.
       (Ex: Baud Rate:9600, Data Bit:8, Stop Bit:1, Parity:None)

    E. Change the Remote Control to „Remote Control2" in the devices menu.

    F. Change the Port to „RS-232" in the PTZ menu of the camera of the devices menu.

    G. Confirm matching the setup of RS-232 of the PTZ menu with PTZ cameras.

    H. Set the PTZ menu according to PTZ cameras. (PRODUCT and ID)

NOTE: The baud rate of all PTZ cameras should be used one speed type (ex. All 9600 or all 2400)

Keys for Dome Camera

Function	Key Label	Descriptions
Camera selection	**0..16 + CAM**	Displays the selected camera number
Cancel	**ESC**	Cancels current inputs. Exits from currently running functions or menu, error status, etc.
Alarm	**ALRM**	No Action
Relay ON	**ON**	No Action
Relay OFF	**OFF**	No Action
Previous	**PREV**	No Action
Next	**NEXT**	No Action
Home	**HOME**	Immediately calls Home function. Deletes selected value or function in programming mode
Global	**GLBL**	No Action
Call Preset position	**PRST**	Pressing Prst will bring up the preset programming menu. Recalls preset; e.g. **1, 2 ... 31 ... 240 + PRST** In the preset or tour programming mode, the operator can review the exiting preset (selected by cursor) by pressing this key.
Tour	**TOUR**	Pressing **TOUR** will bring up the tour programming menu directly. Recalls programmed presets or functions sequentially. (e.g., **1 ~ 8 + TOUR**)
Pattern	**PTRN**	Pressing **PTRN** will bring up the pattern programming menu directly. Repeats the selected pattern of the current dome camera. (e.g., **1 ~ 4 + PTRN**)
Auto Scan	**SCAN**	Pressing SCAN will bring up the Auto Scan programming menu. Calls Auto panning function (e.g. **2 + SCAN** repeats Auto Scan 2).
Configuration	**MENU**	Enters programming menu. **CTRL + MENU** will invoke Keyboard set up menu
Program	**CTRL** **PGM**	**No. + CTRL/PGM + PRST** will store current view as a preset directly. **No. + CTRL/PGM + TOUR** will open programming menu **No. + CTRL/PGM + SCAN** will open programming menu
Control	**CTRL** **PGM**	**CTRL+Joystick:** In a programming mode (Preset, Pattern, Scan, Privacy....) the joystick operates as if in the normal control mode. While pressing and holding down the **CTRL** key, all movements of the joystick will start recording when in the pattern programming menu. **CTRL + Joystick**: In normal operation mode, manual speed of the joystick control will be operated in turbo mode. (Max. speed = 380°/sec)
Enter	**ENTR** **GLBL**	Completes entering data for the password or title **ENTR + Joystick**: Direction key in DVR remote mode
Manual Focus	◁ ◁	Overrides auto focus. Moving the Zoom handle reactivates Auto Focus mode.
Manual Iris	☻ ○	Overrides auto iris. Moving the joystick reactivates Auto Iris mode.
Zoom	⬆ ⬇	Zoom control
Joystick	**Twist** **Up / Down** **Left / Right**	Zoom control (proportional to position). Tilt control, Cursor Up / Down in the menu Pan control, Cursor Left / Right or Page scroll in the menu.

NOTE: **According to camera type, these functions could be different from the description.**

Keys for DVR

Function	Key Label	Descriptions
ID Selection	(DVR)	DVR ID Selection (e.g. **1** or **2 + DVR**)
PTZ	(PTZ)	Open a Pan/Tilt/Zoom screen which allows you to control properly configured cameras.
Play/Pause	(►/II)	Play recorded data / Pause playing
Rewind	(◄◄)	Play video backward at high speed. Pressing the button again toggles the playback speed from ◄◄ , ◄◄◄ and ◄◄◄◄ .
Fast Forward	(►►)	Play video forward at high speed. Pressing the button again toggles the playback speed from ►► , ►►► .and ►►►► .
Stop	(■/↺)	During Playback mode returns the DVR to the Live Monitoring mode.
Record	(●/↝)	Set the DVR so that it is ready to record video.
MENU	(MENU)	Enter the menu screen. You will need to enter the administrator password to access the menu if enabled. Press the menu button to see the search menu in the playback mode. Pressing the button also closes the current menu or setup dialog box.
Alarm	(🕭)	Invokes the event log search menu.
Freeze	(❄)	Freeze the current live screen
Zoom	(🔍)	Display the digital zoom screen.
Sequence	(🗗)	Sequence
Display Mode	(⊞)	Toggle between different display formats. The available formats are: full, 4x4, 3x3, 2x2 and PIP.
Display Mode	**1, 2, 3, 4 +** (⊞) (QUAD)	PIP (1 + Quad), 2x2 (2 + Quad), 3x3 (3 + Quad) and 4x4 (4 + Quad)
Enter	(↵)	Select a highlighted item or completes an entry that you have made.
Spot Sequence	**AUX1 .. AUX4**	Toggle On and OFF sequence mode of the selected spot output.
Spot output	**No. + AUX1 ~ 4**	Displays selected camera as spot output of the current DVR.
Full Screen	**No. + MAIN**	Displays selected camera in the full-screen mode and enter the numbers in the login menu.
Cursor movement	**ENTR + Joystick**	Up / Down / Left / Right control in the digital zoom. Left / Right control in the quad or 3x3 screen.
Cursor movement	**Joystick**	Up / Down / Left / Right control in the menu

* See the DVR's manual to know in detail.

NOTE: To use other type keyboard to the slave keyboard, you should upgrade the firmware of the keyboard by the version 3.0 and over.